Final Financial and Programmatic Report to the National Fish and Wildlife Foundation

Reduction of Floating Groundline Arc Profile Study
Grant # 2003-0170-002

Submitted by
Maine Department of Marine Resources
194 McKown Point Road
West Boothbay Harbor, Maine 04575

March 1, 2005

1. Final Financial Reporting Form

(see attached)

2. Final Programmatic Report

As part of the Maine Recovery Plan, the Department of Marine Resources (DMR) continued gear modification research efforts in the fall of 2003 with a comprehensive statewide groundline survey, greatly expanding the scope of earlier remote operated vehicle (ROV) surveys done in February and April 2003. Working with a contracted ROV operator and from a different lobster boat every day, DMR filmed gear and local habitat out of two dozen harbors along the entire coast. Over 200 camera drops were made, and the differing lobster gear and fishing areas of 124 lobstermen filmed. This effort yielded extensive baseline data regarding which rope-types were used in which areas; the bottom-types of each area; the average profile of each type of rope; and how different configurations of gear affected the profile of the groundline.

The progress of this ROV survey was followed closely by the Maine lobster industry. DMR outreach included articles in the DMR Lobster Newsletter, all major coastal newspapers and stories presented on Maine's two largest television networks.

3. Photos, Publications, press releases, video

(see attached)

4. Project Evaluation Report

(see attached)

Respectfully submitted,

Terry Stockwell
DMR

National Fish and Wildlife Foundation
Project Evaluation Form

Project Name and Number: Reduction of Floating Groundline Arc Profile Study #2003-0170-002

Recipient: Maine Department of Marine Resources

Project Location: Coast of Maine

1) Were the specific objectives as outlined in your application and grant agreement successfully implemented and accomplished? Explain.

Although weather and logistic challenges prevented the use of six of the 30 intended days-at-sea, comprehensive filming successfully occurred along the entire coast. DMR contracted the ROV and operator, the Maine Lobstermen's Association was contracted to hire two dozen boats and captains, lobster gear and coastal habitat were comprehensively filmed, and the resulting footage was edited and distributed to lobstermen and the ALWTRT.

2) Please assess project accomplishments as quantitatively as possible. For example:

   a. Number of miles of stream/river corridor benefited. Categorize by type of benefit (e.g., protected, enhanced, restored, made accessible).

   b. Total acres of land conserved. Categorize by conservation mechanism (e.g., restored, managed, acquired, placed under an easement) and by habitat type (e.g., wetland, deciduous forest, shortgrass prairie).

   c. Species benefited. If possible, report number of individuals of each species.

   d. Number of meetings/events held.

   e. Presentations made.

   f. Publications and extent of distribution.

   g. Other

Twenty-one lobstermen directly participated as boat captains, and more than twice that were involved as sternmen or observers. Twenty-four harbors along the entire Maine coast were departure points during the two months of filming, and gear of 124 different lobstermen was filmed. Many other industry members were engaged over the VHF radio, in person, on the dock, or at the coffee shop. Over 200 drops of the ROV were made in all bottom types: mud, sand, gravel, ledge, cobble, boulders, and broken bottom. Two major state TV networks featured the project in newscasts. ROV footage was shown to a group of participating lobstermen in January 2004; at Take Reduction Team meetings in February

and March 2004; in presentations to many Maine lobstermen at the 2004 Maine Fishermen's Forum; and was distributed to individual lobstermen on request.

3) Assess the number of people reached through your work (e.g., landowners, students, organizations, agencies) Did other land managers benefit from the project?

Through the seven Lobster Zone Councils, the Maine Fishermen's Forum, the Take Reduction Team meetings, television exposure, local, state, and national press, and hundreds of informal discussions, it is presumed that the vast majority of licensed Maine lobstermen (7000+) and countless general public were made aware of this survey effort.

4) Were any surveys or interviews conducted with partners to help gauge the success of your efforts?

Though no formal survey was distributed after this phase of the Maine Recovery Plan, feedback and input from lobstermen was solicited each day of the ROV project. Follow-up conversations with MLA and NOAA Protected Resource staff resulted in DMR continuing its ROV research effort in June 2004.

5) How will the project be evaluated in terms of monitoring or assessment of cause-and-effect response? Describe the evaluation timescale (e.g., one year, five years, ten years). How will monitoring results be reported?

This groundline profile and habitat survey yielded a follow-up ROV project, one focused on modified groundlines. Two mid-coast area lobstermen initiated gear modification ideas directly after considering the results and process of the 2003 filming effort. While results were assessed immediately (during the film editing phase), the data obtained from this survey may allow for the development of alternate management strategies in the coming years and will help educate all interested parties as to the operational realities of coastal Maine lobster fishing gear.

6) Does this project fit into a larger program, spatially or temporally? If so, how has that program benefited from your work? (For example, an easement or on-the-ground work that connects or benefits other protected properties.)

The 2003 ROV survey was the cornerstone for the DMR's gear research effort which is a primary component of the Maine Recovery Plan. (This Plan also includes programs for whale sightings, disentanglement, and foraging studies.) Without the baseline data obtained from this comprehensive survey, it would be extremely difficult to develop potential groundline modification and alternate fishing strategies to reduce the threat of entanglement.

7) Does the project incorporate an adaptive management component? If so, please explain. Any lessons learned that will guide future implementation of this, or similar, projects?

The groundline and habitat footage obtained during September through November 2003 directly underscores the operational realities of the Maine lobster industry, both in what it has looked like and where it could go (in terms of groundline arc profile). Working with

industry proved to be a powerful and valuable component of this project, leading the way for future collaborations between management and the fishing industry.

8) Was there a local/regional/national response? Any media/press involvement?

This project was featured prominently in local, regional, state, and national press. (Articles and video included in report package.)

9) To what degree has this project contributed to the conservation community as a whole?

The footage of gear filmed in this effort gave the ALWTRT – which includes members of the conservation community, federal and state managers, whale biologists and fishermen -- a clear picture of the rocky/tidal habitat fished by Maine lobstermen along many parts of the coast. As a result, the dialogue between management, conservationists, and fishermen has improved and additional collaboration and research is planned.

10) Did your work bring in additional partners, more landowners, et cetera, who would be interested in doing similar work on their land in the future? If so, please describe.

Many members of the Maine lobster industry have gotten involved in DMR/NOAA gear modification research as a result of this coastwide survey effort. Additionally, because of the rapport DMR has with the Maine lobster industry, several conservation organizations (e.g. Ocean Conservancy and IFAW) have approached DMR with ideas for collaboration, such as gear buy-back programs.

11) Do you have any suggestions for NFWF to guide improvement of our project administration?

DMR has expressed its frustrations regarding the limiting logistics of NFWF's grants administration: first, with the inability to accommodate multiple year collaborative State and Federal protected resource programs; and second, to suggest they consider adoption of a single account for State organizations that draw on multiple contracts to sustain a single Recovery Plan, thereby streamlining the considerable reporting effort.

Please share any additional information that you feel is important to the evaluation of your program.

It is important to understand that this particular contract (2003-0170-002) funded only one facet of the larger Maine Recovery Plan, which is ongoing and evolves to accommodate Federal mandates and priority shifts resulting from the evolving ALWTRP.

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www.state.me.us/dmr

Department of Marine Resources

Memo

To: Maine Whale Plan Sightings and Disentanglement Network
From: Laura Ludwig, Maine Whale Plan Coordinator
Date: June 18, 2003
Re: 2003 Maine Whale Plan

The National Marine Fisheries Service looks at Maine as a model in government-industry collaboration, recognizing that our Sightings and Disentanglement Network strives to protect both whales and fishermen. I hope you will continue to be part of this Network as we move forward into the next phase of the Whale Plan. Enclosed is a reminder of the protocol for dealing with entangled whales, and a list of the Industry Minke Team. These lobstermen, along with all Marine Patrol boats, have specialized minke disentanglement tools on their boats, and are our first line of response for minke entanglements; please review them and keep them handy.

The issue of entangled whales is bigger than ever. Five entangled right whales have already been sighted since January, and the global pressure to solve the problem of entanglements is mounting. Last week, an emaciated minke whale stranded in Nantucket, entangled in groundfish mesh and later euthanized because it was so weak. The problem of entanglement will continue to put the fishing industry in the spotlight, and we need to come up with workable solutions. It is widely recognized that disentanglement isn't the answer, though, and this year we have shifted the focus of the Maine Whale Plan from sightings and disentanglement efforts to gear research and modifications.

The conservation community is targeting float rope and trawl groundlines in particular as the main culprit in whale entanglements, and it is critical that we examine and document the need for float rope in specific areas. We have received significant research funding for this year and expect another three years of federal support for whale take reduction efforts. We conducted underwater video pilot projects this past winter, and will continue the work this summer by filming lobster gear underwater from Kittery to Cutler. We are looking to the lobster industry to come up with gear modifications that would reduce the profile of float rope.

I will be contacting you about the underwater gear filming effort this summer as we approach your area. If you have thoughts about how to modify poly groundlines to reduce their profile, I am eager to hear them. I appreciate your past involvement in the Maine Whale Plan, and I look forward to seeing you during our gear research effort this summer.

Laura Ludwig, Whale Plan Coordinator, DMR, 633-9513 office, 557-0109 mobile, Laura.Ludwig@maine.gov

Attention Lobstermen:
ROV (Remote Operated Vehicle) Survey of Groundline Profiles

In response to proposed modifications to the Federal whale regulations, Maine DMR's coast-wide ROV survey of groundline profiles begins in August. If you would like to view your gear in action or participate in the investigation, please contact Laura Ludwig in Boothbay Harbor (207-633-9513) for a schedule and information.

Submit to CFN, Fishermen's Voice, MLA & DELA newsletters
August editions

Department of Marine Resources

Contact: Laura Ludwig
(207) 633-9513

August 27, 2003

Maine DMR Underwater Gear Research

The Atlantic Large Whale Take Reduction Team (ALWTRT) has identified Maine's tidal and rocky coastal habitat as distinctly separate and unique compared to the balance of the habitats frequented by large whales along the east coast of the United States, and Maine's fishermen have traditionally required certain types of rope to enable fishing in strong tides and along the rough ocean floor. In order to determine the State's response to recent proposed amendments to the Atlantic Large Whale Take Reduction Plan, the Maine Department of Marine Resources (DMR) is investigating the underwater profile properties of groundlines (rope between the traps) used by the Maine inshore lobster industry.

The ALWTRT – comprising members of science, gear, government, environmental and commercial fishing interests – is charged with identifying means to reduce the number of whale injuries and mortalities that involve fishing gear. Floating polypropylene rope, or "float rope," is a widely-used fishing warp that has recently been implicated in many large whale entanglements, and there is concern that float rope groundlines between a string of lobster traps present a lasso-like obstacle course to many species of endangered whales.

Throughout the month of September 2003, the DMR will be surveying lobster gear with an underwater video camera mounted to a Remote Operated Vehicle (ROV). Footage of differing rope types and trap configurations will be recorded for analysis, sampling approximately 60 areas along the coast. The ROV

will be deployed off of working lobster boats, filming gear that is actively fishing, and the ROV effort will travel from west to east beginning in early September. The primary objective of the ROV project is to document the profile of groundlines between lobster traps as they are fished on a variety of bottom-types and in different tidal areas in order to determine the actual height of groundline profiles, and to develop low-profile groundline alternatives in gear configurations and areas that present a risk to large whales.

DMR will build upon three pilot ROV projects conducted in February and April 2003, expanding the effort to secure video footage representative of differing lobster gear configurations and habitats along the entire Maine coastline. This thorough documentation of the groundline profiles of Maine lobster gear will provide information necessary for the State to make recommendations to the National Marine Fisheries Service regarding fishing techniques in Maine's unique coastal environment.

Fishermen interested in having their gear filmed should contact Terry Stockwell at the DMR, 207-633-9556, for more information. A minimum of 28 days of footage will be recorded, and a tentative filming schedule is posted at the DMR's website, www.maine.gov/dmr at the link under "What's New."

Attention Lobstermen:
View Your Gear In Action

ROV (Remote Operated Vehicle) Survey of Groundline Profiles

In response to proposed modifications to the Federal whale regulations, Maine DMR is conducting a coast-wide ROV survey of groundline profiles. We would like to film your gear. If you would like to participate, please contact Laura Ludwig at DMR (207-633-9513) or Patrice Farrey at MLA (207-985-4544) for details.

Submit to CFN, Fishermen's Voice, Working Waterfront, MLA & DELA newsletters
September editions

Maine Sunday Telegram
RunDate Sunday, September 14, 2003
Headline High-tech help for whales
SubHead Maine lobstermen get a whale's-eye view of gear
Section Maine & New England
Edition FINAL
Page 1B
Corrections
StoryByline By JOHN RICHARDSON Staff Writer
Dateline EAST OF CAPE ELIZABETH
Body Text

Jeff Adams stared at a video screen aboard his lobster boat, eager for a look at the string of traps set on the ocean floor 60 feet below. As a remote-controlled vehicle aimed its camera and slowly descended, the first trap appeared on the screen, sitting on the rocky bottom and surrounded by crabs and a few small fish. While Adams watched for signs of lobsters, he and a small group of researchers aboard his boat were mostly focused on a rope, called a groundline, that floated nearly straight up from the trap before descending again to the next trap in a long underwater chain.

The video showed the lightweight groundline doing its job - floating clear of rocks that might snag the gear. But it also showed why such floating lines have been singled out as a direct threat to the survival of the North Atlantic right whale, a highly endangered species known to swim into lobster-trap lines, sometimes getting entangled and killed.

Last week, Adams and his boat, the B&B, became part of an unusual research project to give lobstermen and regulators a whale's-eye view of the gear - both floating lines and heavier, sinking lines. State officials and industry members hope the project will shed light on the risks and lead to a solution that allows the lobstermen to keep setting and hauling traps along Maine's rocky coastline while, at the same time, saving whales.

"Nobody knows what it looks like down there. It's kind of hard to know what we're up against," said Patrice Farrey, executive director of the Maine Lobstermen's Association and a member of the research team aboard the B&B. "I think this would be enlightening to a lot of guys."

The study comes at an important time for the industry. A federal agency is preparing another round of whale-protection rules after a rash of entanglements last year showed that past regulations of the lobster and gillnet fleets have not yet eliminated the threat to the right whales. Among the proposals being considered now is a ban on the floating groundlines widely used in Maine's coastal waters.

The proposal is stirring fear in harbors along the coast, where floating lines are considered a necessary tool of the trade. It is likely to generate protests reminiscent of the fight against the first major round of whale-protection rules in the late 1990s. But Adams and many other lobstermen are taking part in the project because they know more rules will soon change the way they fish, and they want them to work.

There are believed to be about 300 right whales in the North Atlantic, and many of them migrate from Florida to the Bay of Fundy each year, meandering through the Gulf of Maine in the spring and early fall.

Right whales are not only among the rarest and most heavily protected whales in the world, they're also accident prone. The large lumbering mammals swim slowly along the surface or underwater with their gaping mouths open wide to catch everything in front of them. The fact that they were so easy to catch, as well as their huge amounts of blubber, led hunters to name them the "right" whale to kill.

Researchers say about half of the right whales that die these days are killed by ship strikes or by getting entangled in fishing gear. Even though hunting was banned long ago, the current rate of those deaths may doom the species to extinction.

Last year, eight right whales were reported entangled in fishing gear and most of them were not expected to survive.

It's unknown how many of the right whale entanglements are directly due to floating groundlines. Whales can also swim into the vertical ropes that attach buoys to the traps. But conservationists have long argued that the high arcs of rope between traps can make an ideal snare for a right whale. Now the state and lobster industry are getting a look at why.

Maine's Department of Marine Resources used several grants to pay for the $85,000 project. It hired Bill Campbell, a diver from Rhode Island who owns Ocean Eye. Campbell operates a remote-operated vehicle, or ROV, that weighs 82 pounds, is a little smaller than a lobster trap and is attached to a long waterproof electrical cable.

Campbell operates the ROV, named Little Bubba, with a hand-held control box, steering its thrusters up, down, right and left as if it were a model car or airplane. The tricky part, he said, is trying to steer with your eyes glued to the video screen and your body rocking back and forth on a small boat.

The state also contracted with the Maine Lobstermen's Association to arrange day-long trips with various lobstermen along the coast and to get permission from many more fishermen to videotape their gear.

Laura Ludwig, the project manager for the state DMR, plans to show videos from the research to lobstermen. But she also hopes to attract attention on the water and show the lobstermen their gear as it's being videotaped.

The team started in southern Maine in early September and expects to finish Down East in early October.

Aboard his 32-foot boat last week, Adams was naturally eager for his first look at the bottom off Cape Elizabeth that he's been fishing the past eight years.

"I never really thought about what it would look like," he said. Adams was happy to see his traps setting right-side up and, in many cases, containing lobsters.

Adams' gear is considered low-risk to whales because he uses a heavier rope that sinks to the bottom. A significant number of lobstermen use sinking groundlines in southern Maine, where the bottom can be either rocky or muddy.

The ROV camera shows Adams' sinking groundline stretched tight across ledges, linking eight or more traps in a string. The line sometimes snakes around boulders and, in a couple of cases, disappears in tight crevices between large rocks.

"That's not good," Adams said, seeing a potential snag on the screen.

The image is very different when the ROV descends to a neighboring lobsterman's traps connected to each other by floating line.

Floating groundlines stand straight up from the trap, so straight that it can be easy for Campbell to lose track of which line goes to the buoy and which goes to the next trap. Campbell struggles to follow the groundline as it arcs toward the surface.

While the ROV cruised easily over sinking groundline, it got tangled in the floating line - much like a passing whale might.

Campbell tried to steer clear as he kept the camera within view of the gear. But the cable and groundline eventually made contact and then he blindly tried to turn the right way to free Little Bubba. Periodically, the crew had to haul the ROV back by hand and disentangle it from a trap.

While the videos are already showing lobstermen why floating groundlines are a potential problem, the state and industry also say the research may help

them make the case for exempting some areas along the coast from a ban on the floating rope.

Little Bubba is expected to find a more challenging and rocky ocean floor as it moves north and east. Videos of steep ledges or boulder fields might help convince regulators that whales are not likely to swim near those lobstering grounds and that banning floating ropes in such areas would make it especially hard for local lobstermen to continue working.

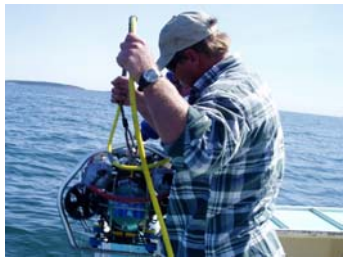
"We need to understand what the needs are as we move up the coast," Farrey said. "What works for Cape Cod Bay could be a disaster Down East."

The National Marine Fisheries Services is now considering proposed rules, including the floating groundline ban and Maine's request to exempt inshore areas where right whales typically are never seen. A decision could be made this fall or winter and new rules are expected to take effect by 2006.

Mike Myric sets his traps near Cushing, where the bottom is extremely rocky. "It would be really, really difficult to fish the way we do now if we couldn't use float rope," he said.

Myric, however, has seen the videos of floating groundlines. "I was surprised," he said. "I realized what its capabilities were and whatnot, but . . . I saw a little more flotation in the water column than what I expected."

After seeing the video, Myric and other lobstermen are testing new lines, trying to find something that stays out of the rocks and boulders, but doesn't float high off the bottom. "I hope it pans out," he said.



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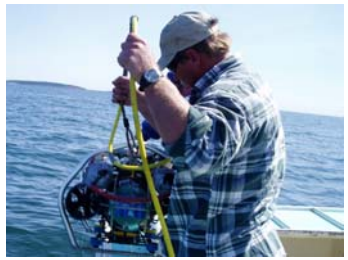

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To all participants in the Fall '03
ROV Groundline Survey Project:

Please join us for a sneak preview of the ROV film
that you helped us make!

Thursday, January 22, 2:00 p.m.
in the Large Conference Room
at the DMR in West Boothbay Harbor.

RSVP to Laura Ludwig 207-633-9513
laura.ludwig@maine.gov

Your input will be greatly appreciated,
and popcorn will be served.

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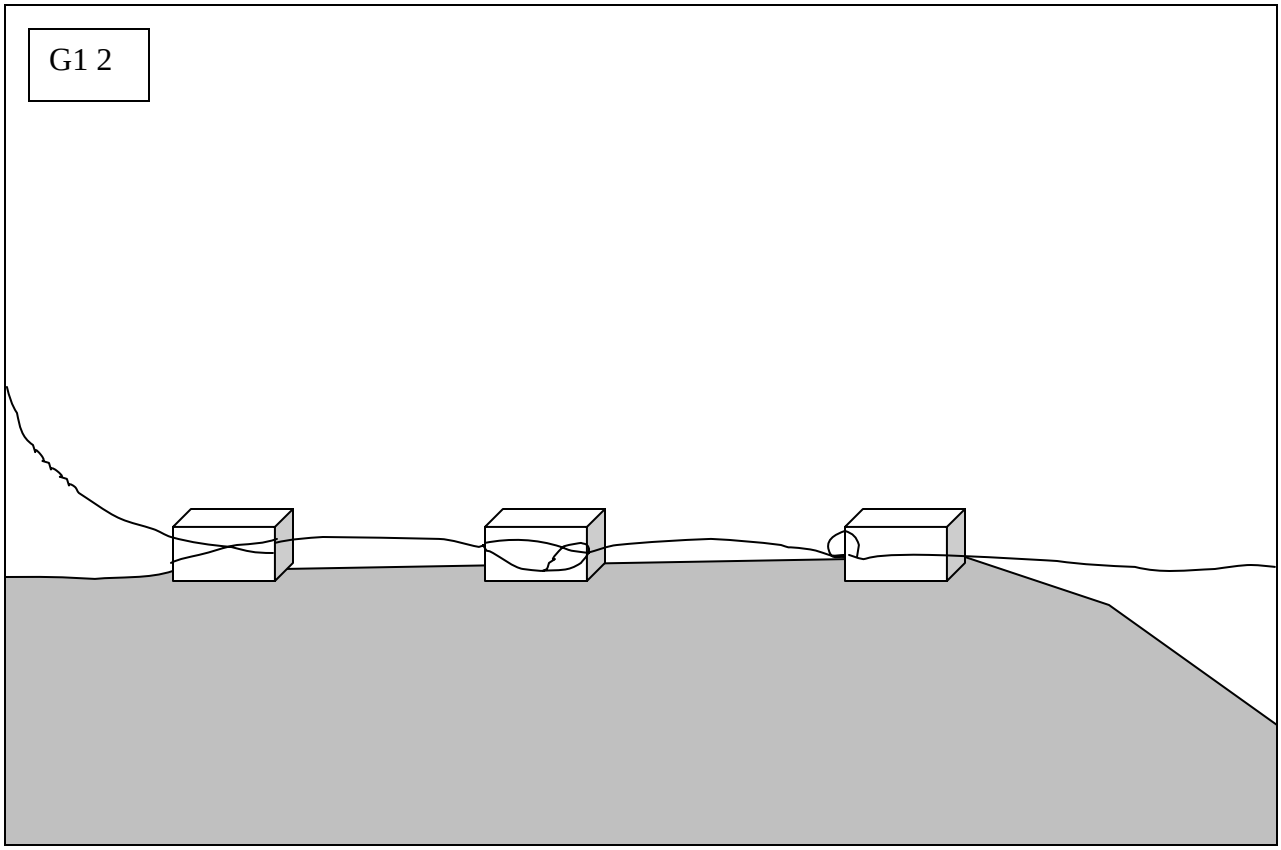
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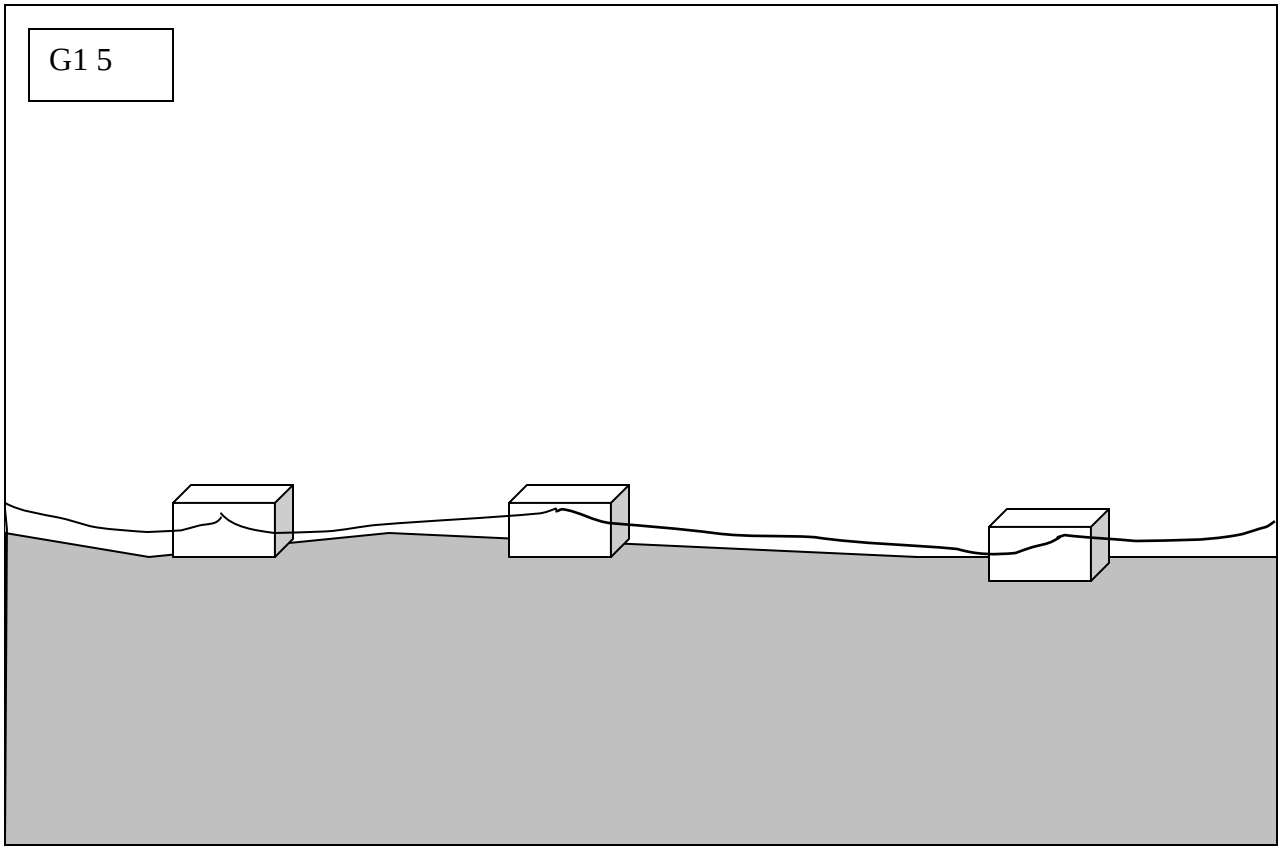
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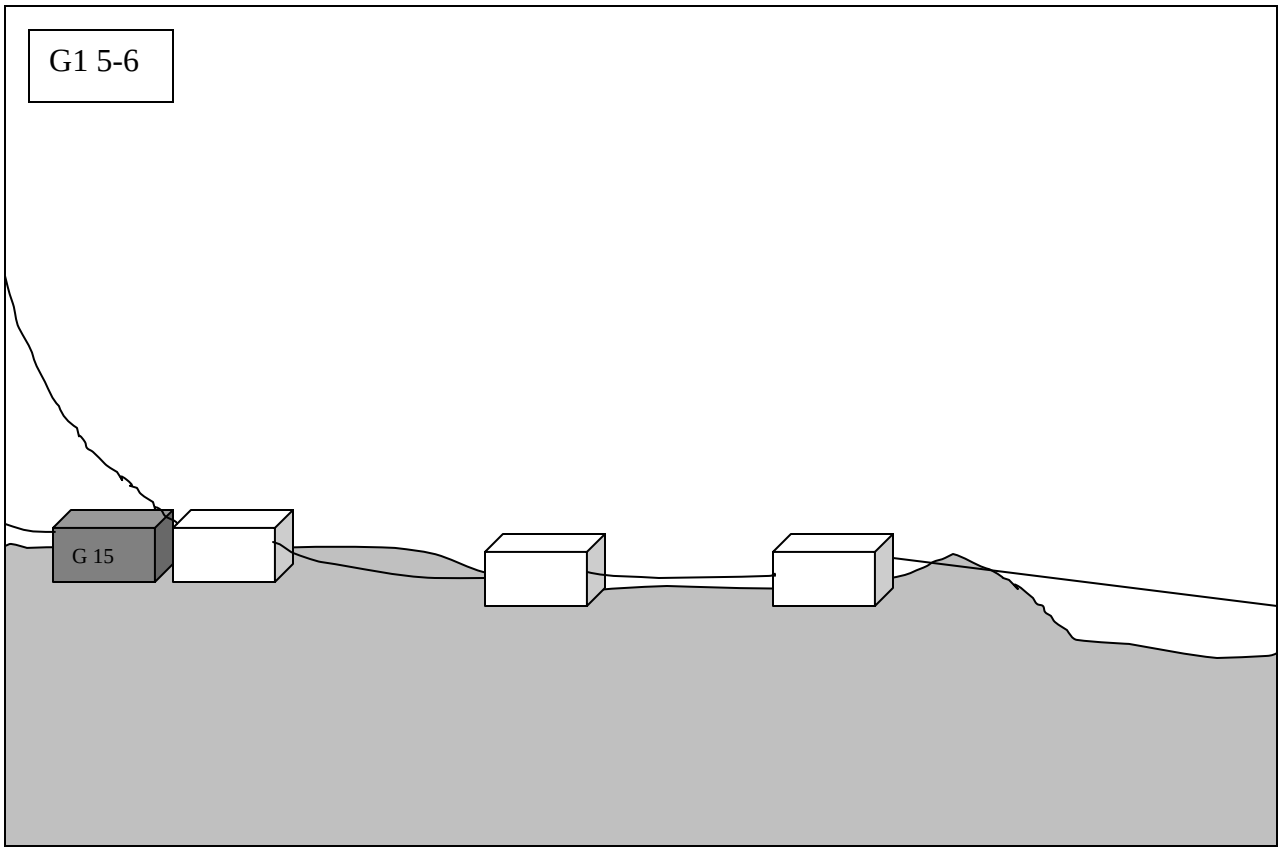
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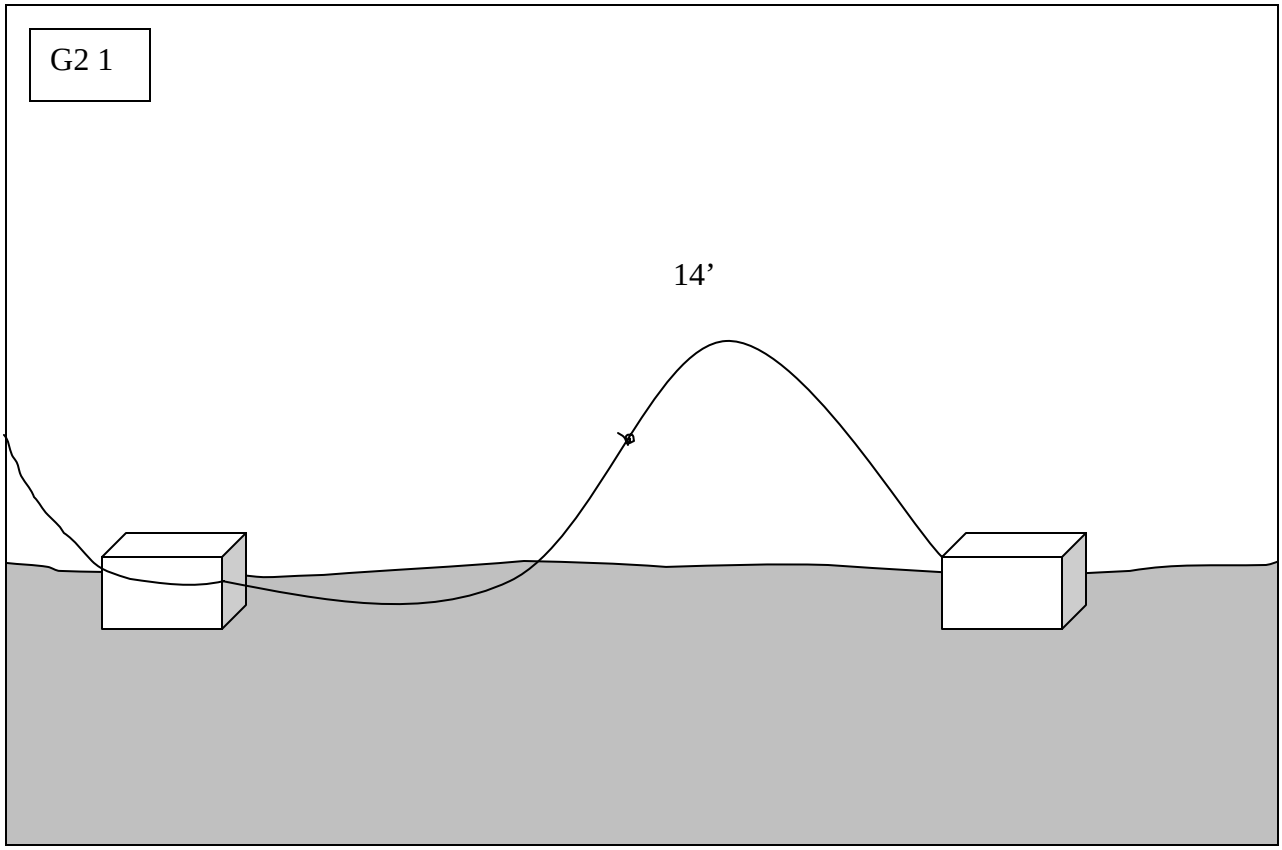
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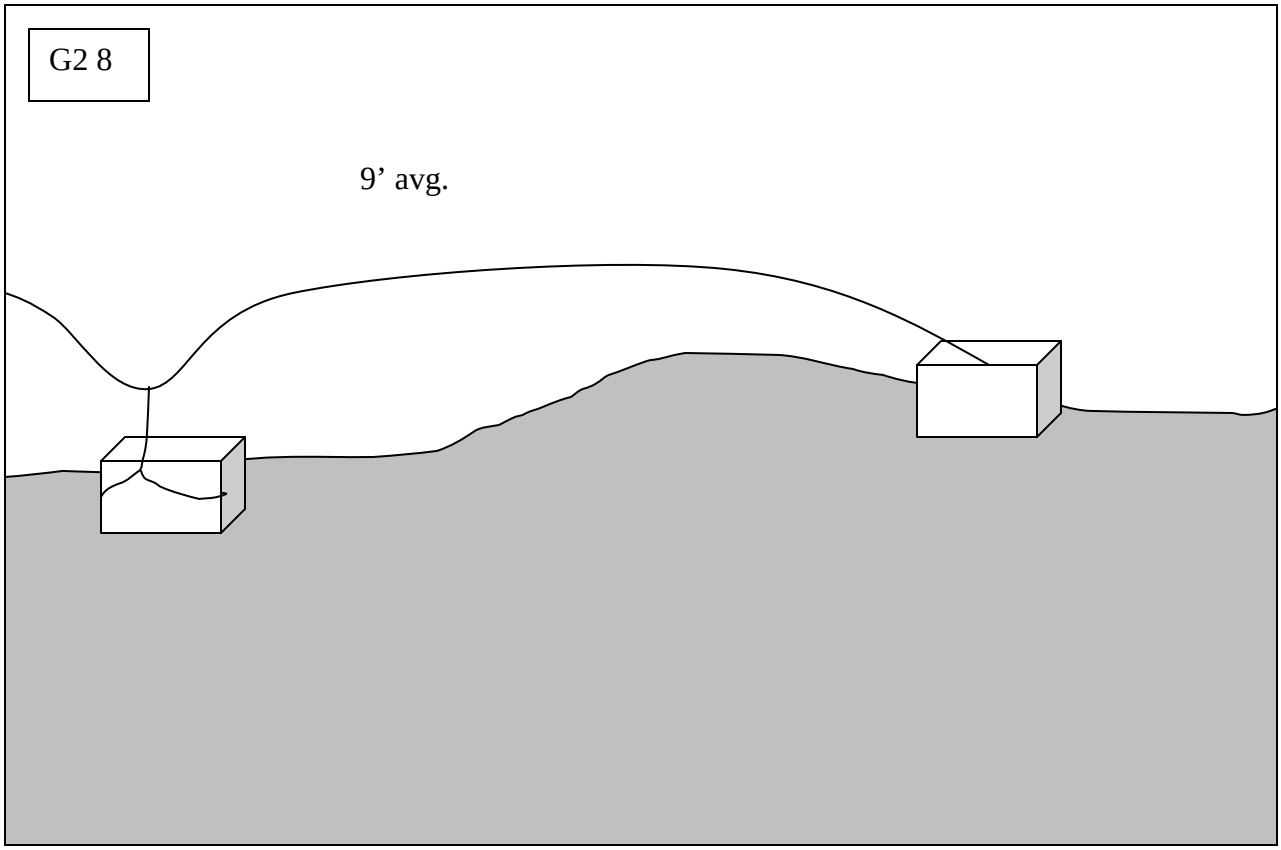
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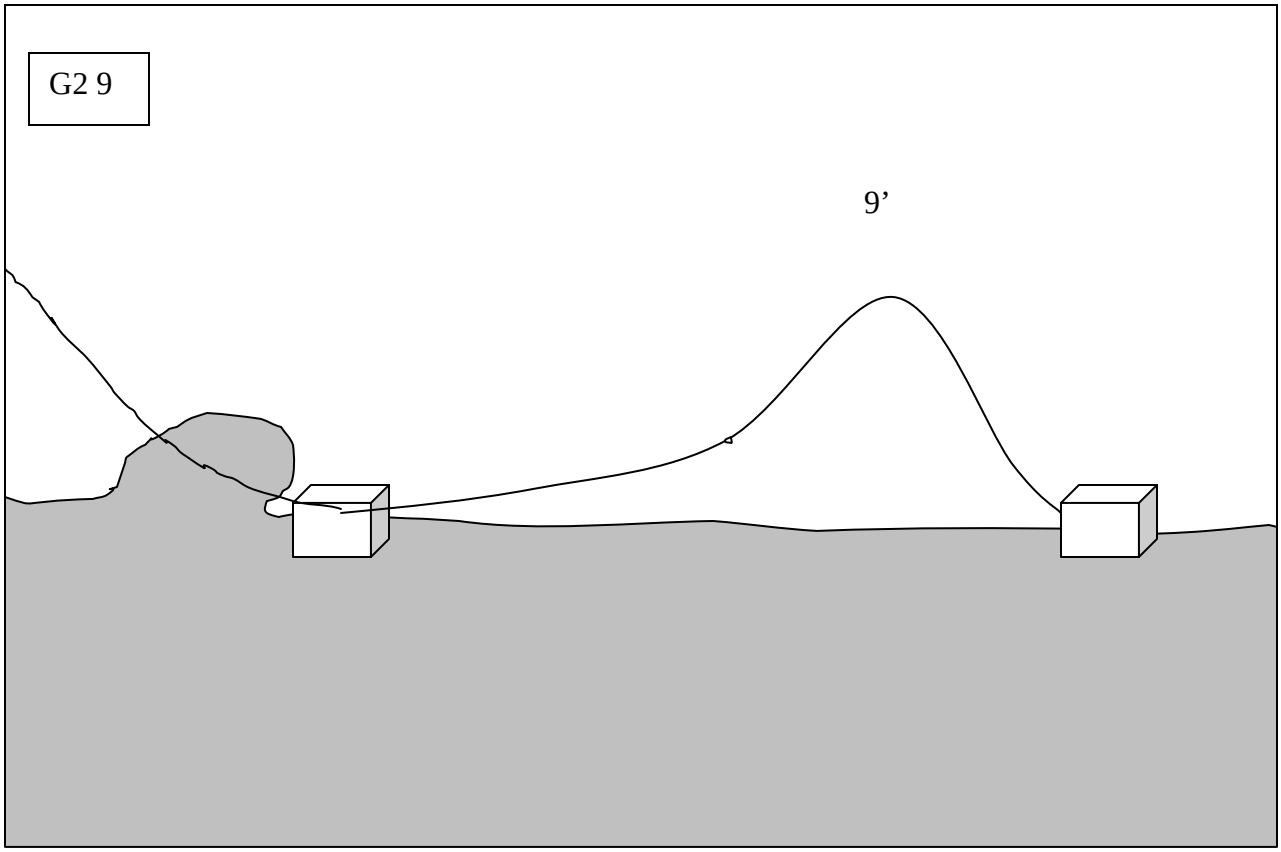
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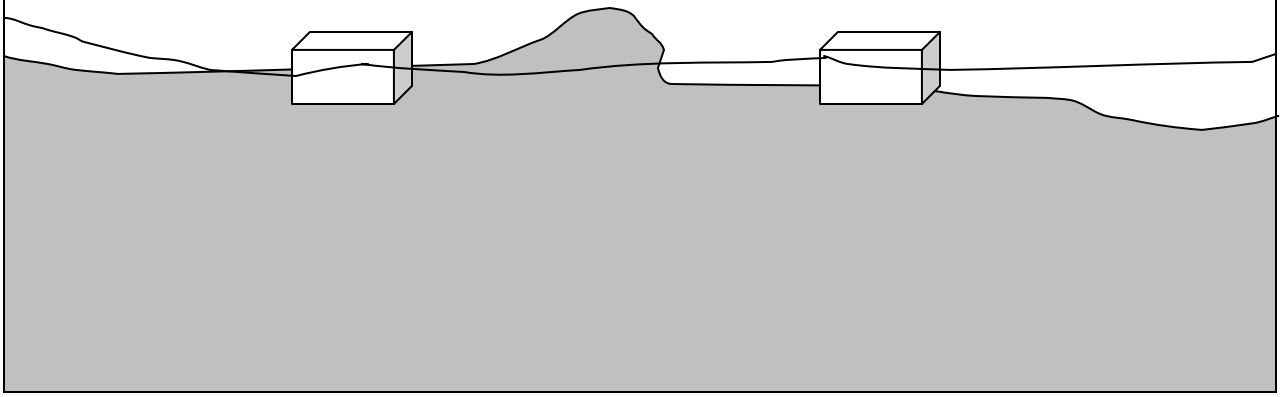

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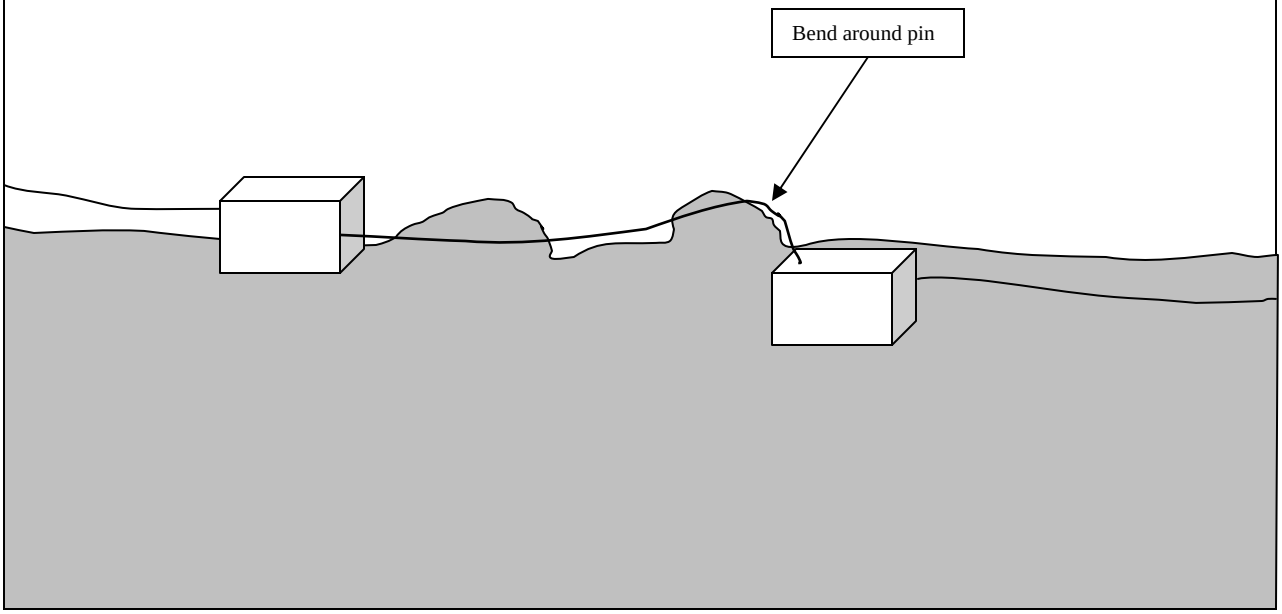

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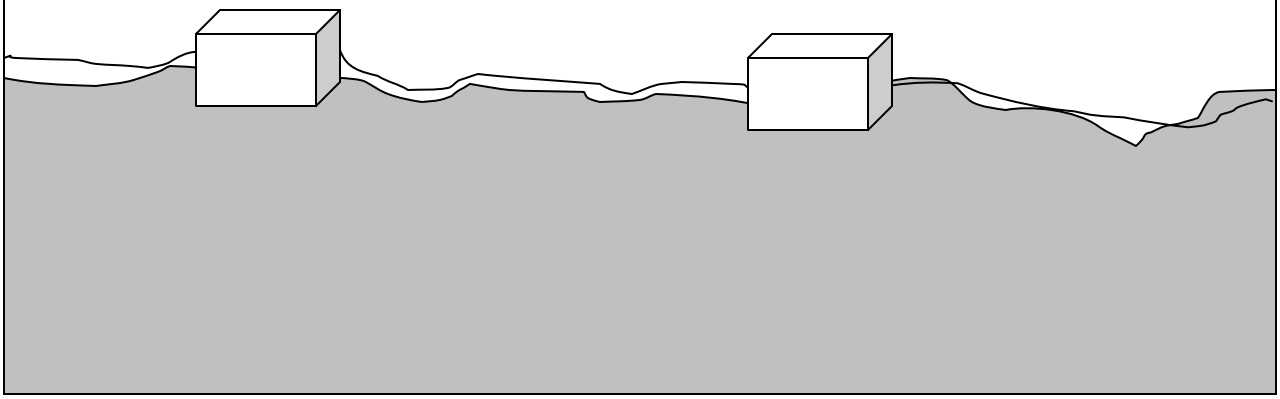

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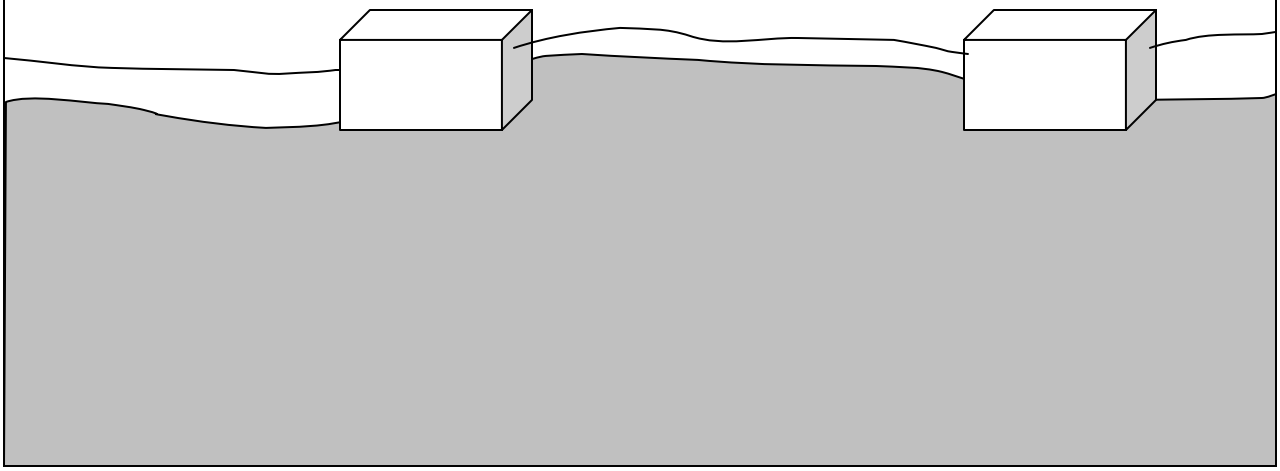

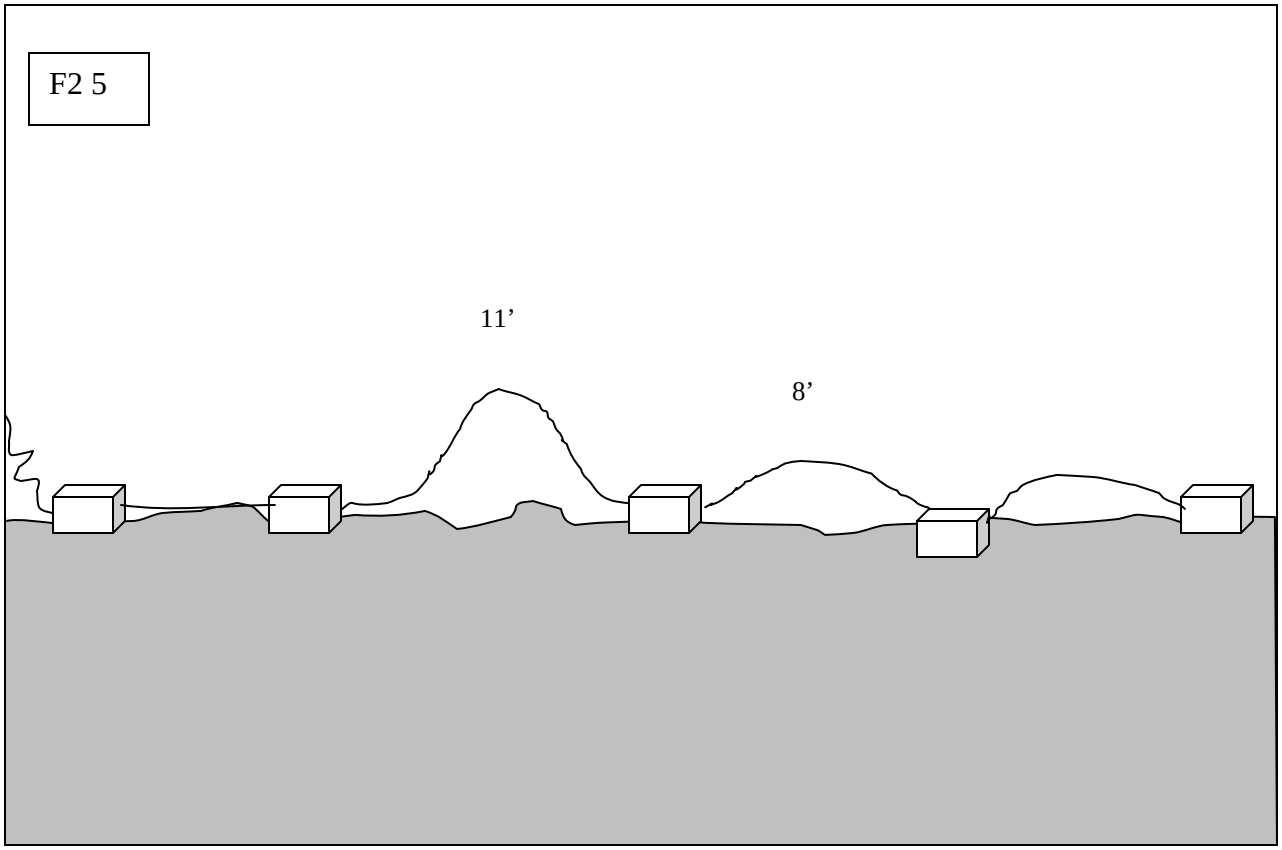
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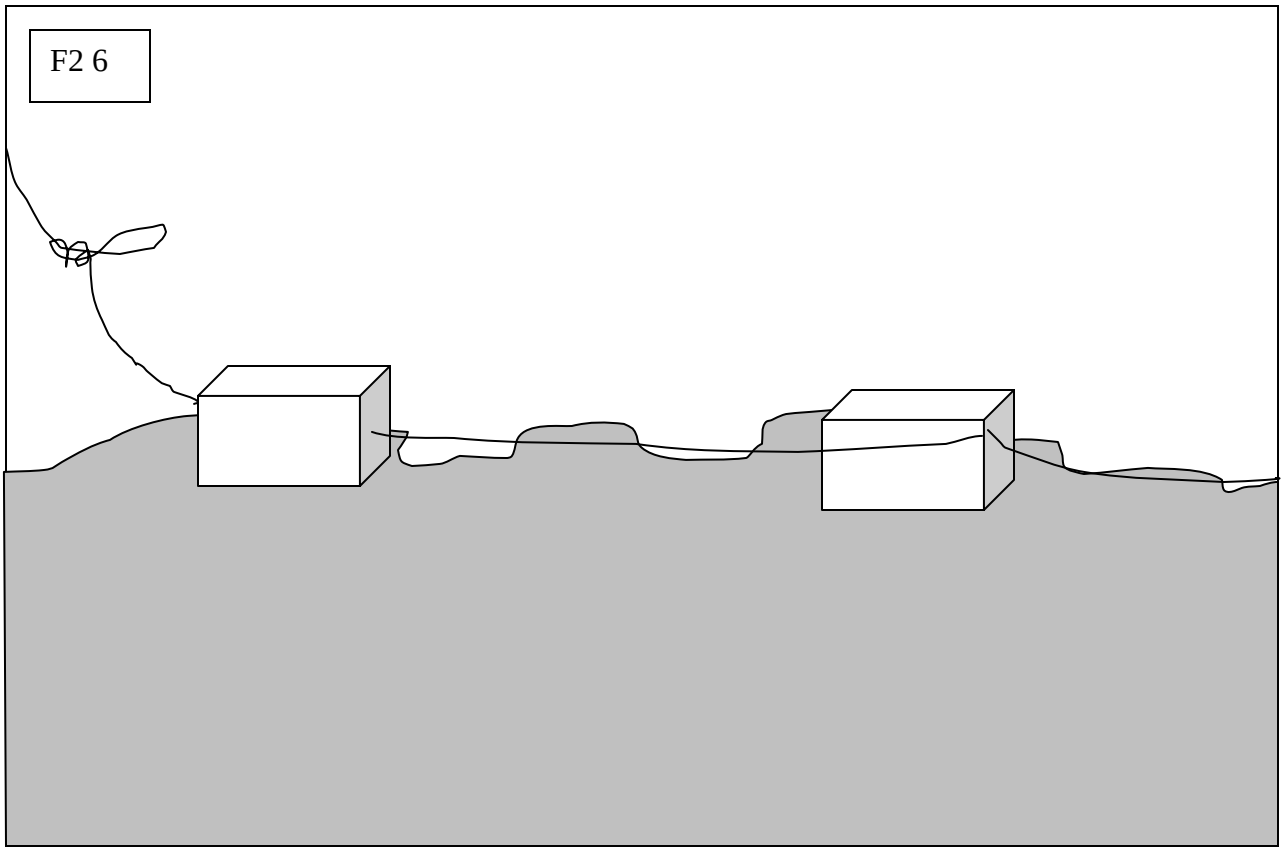
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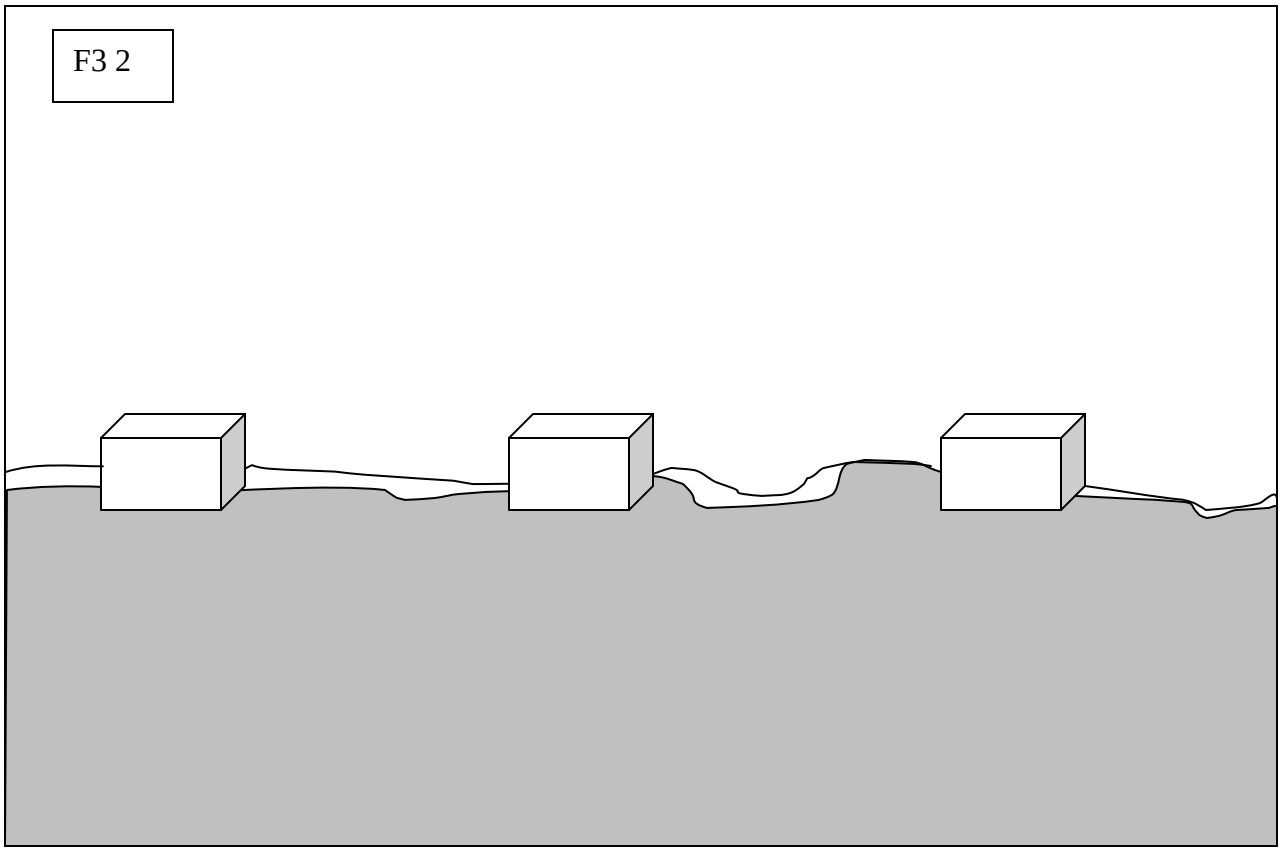
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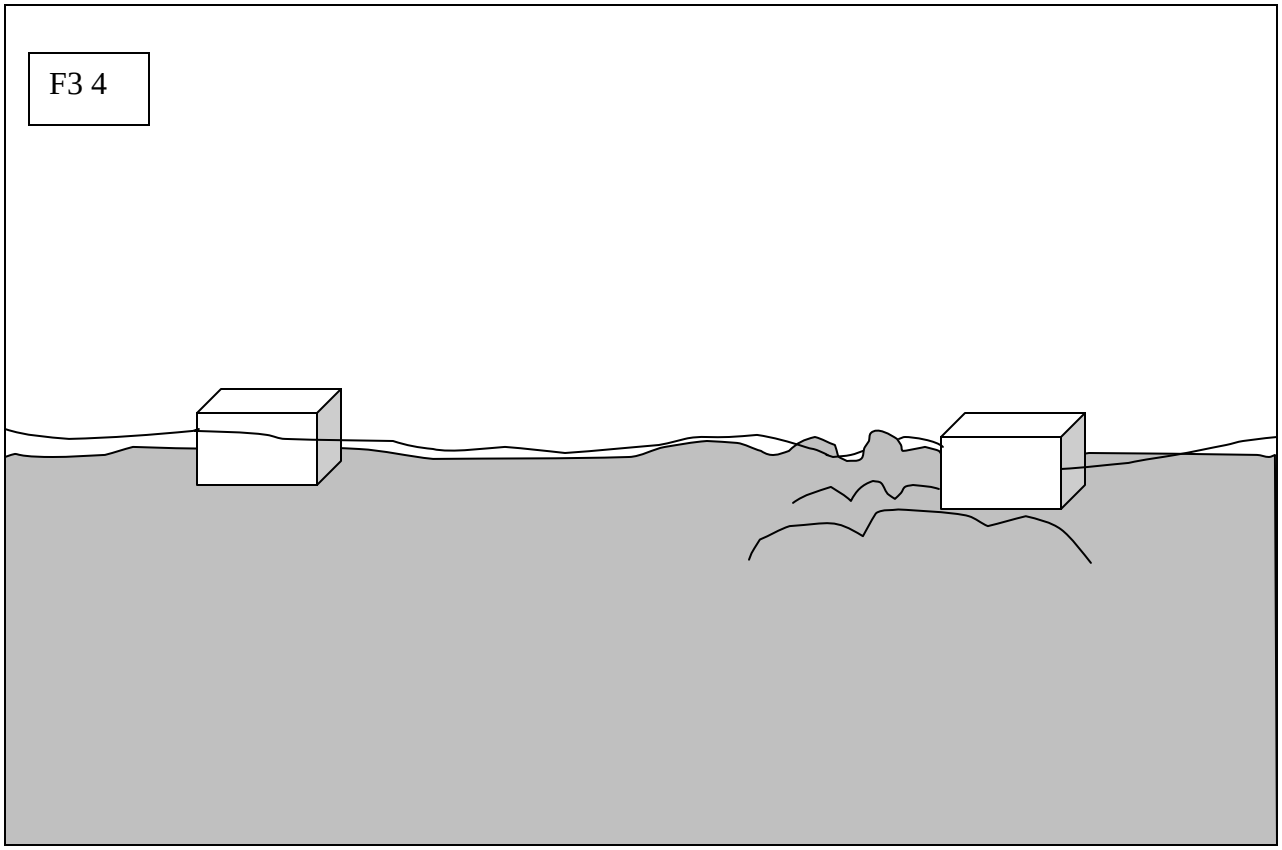
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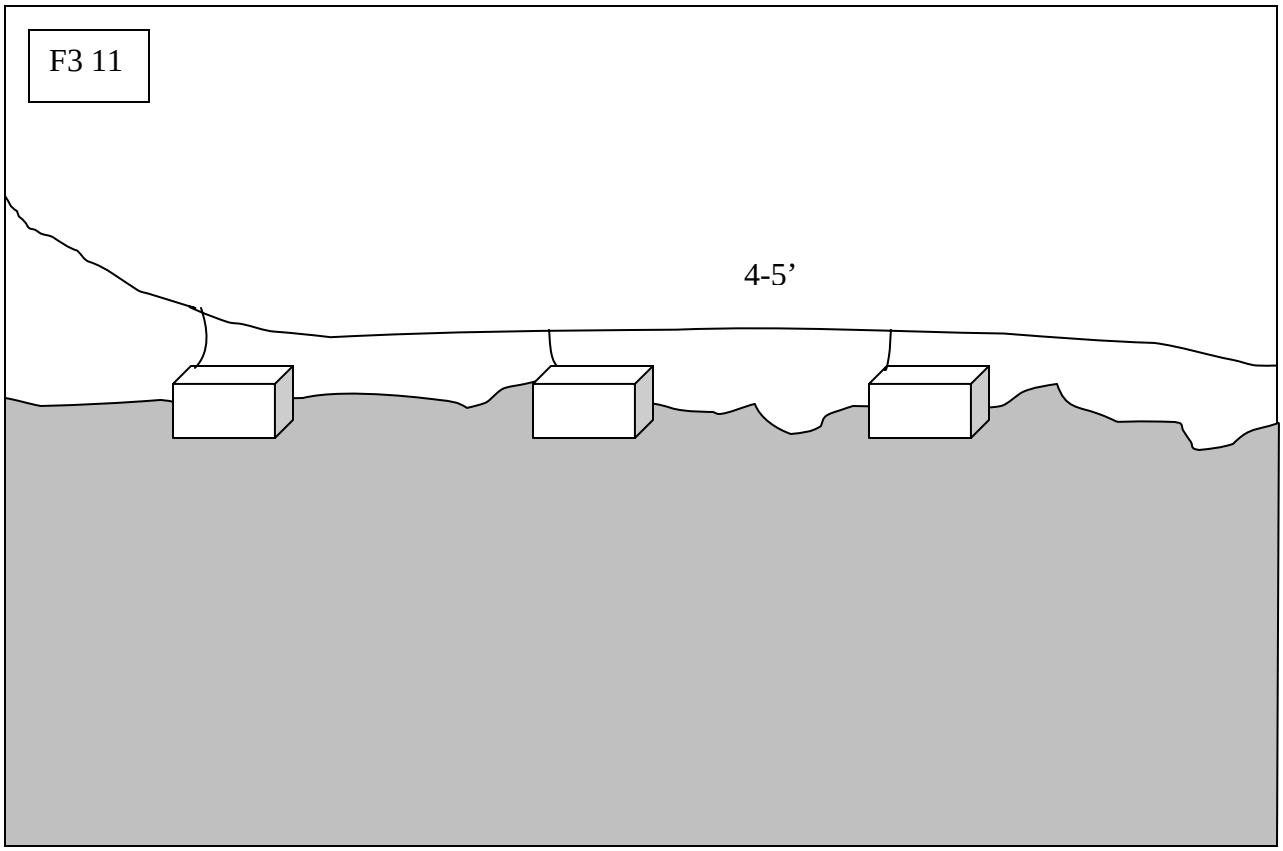
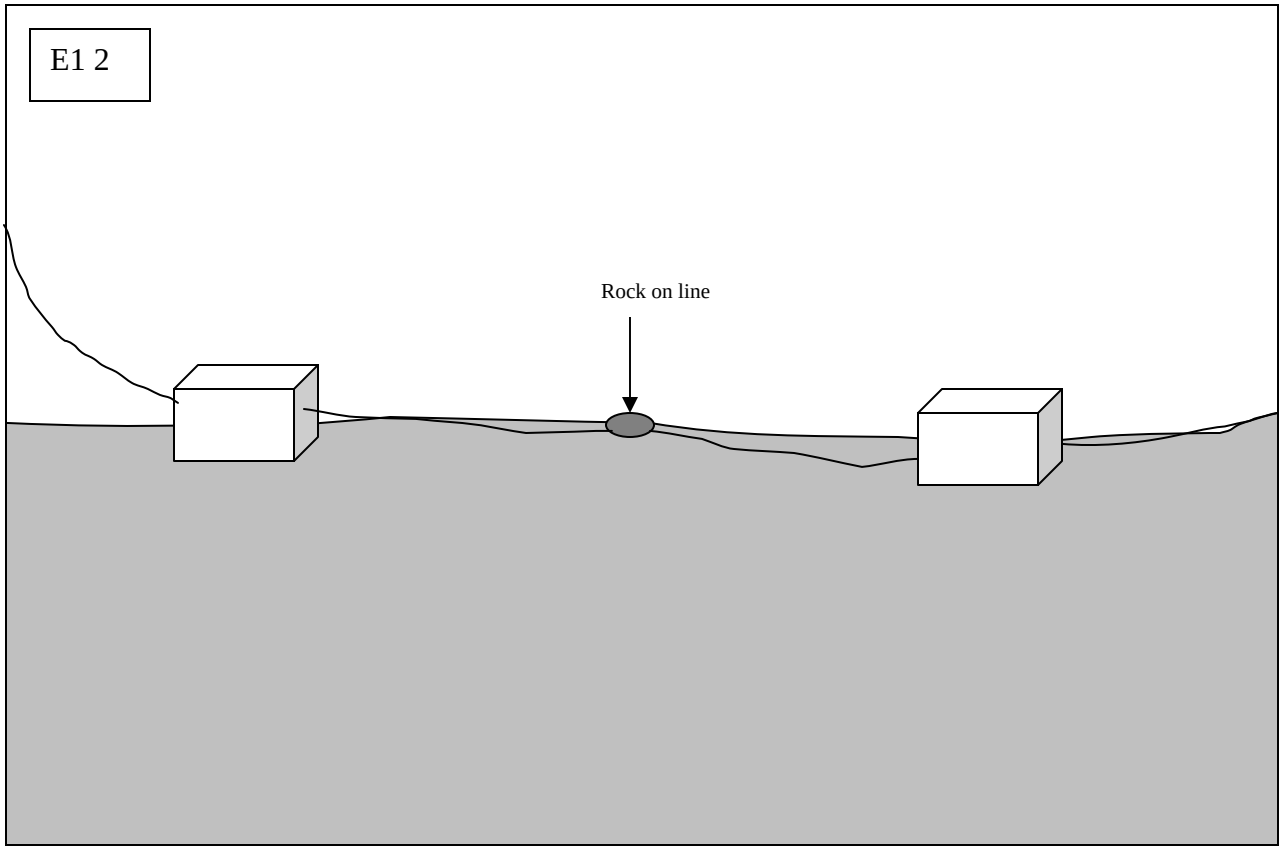
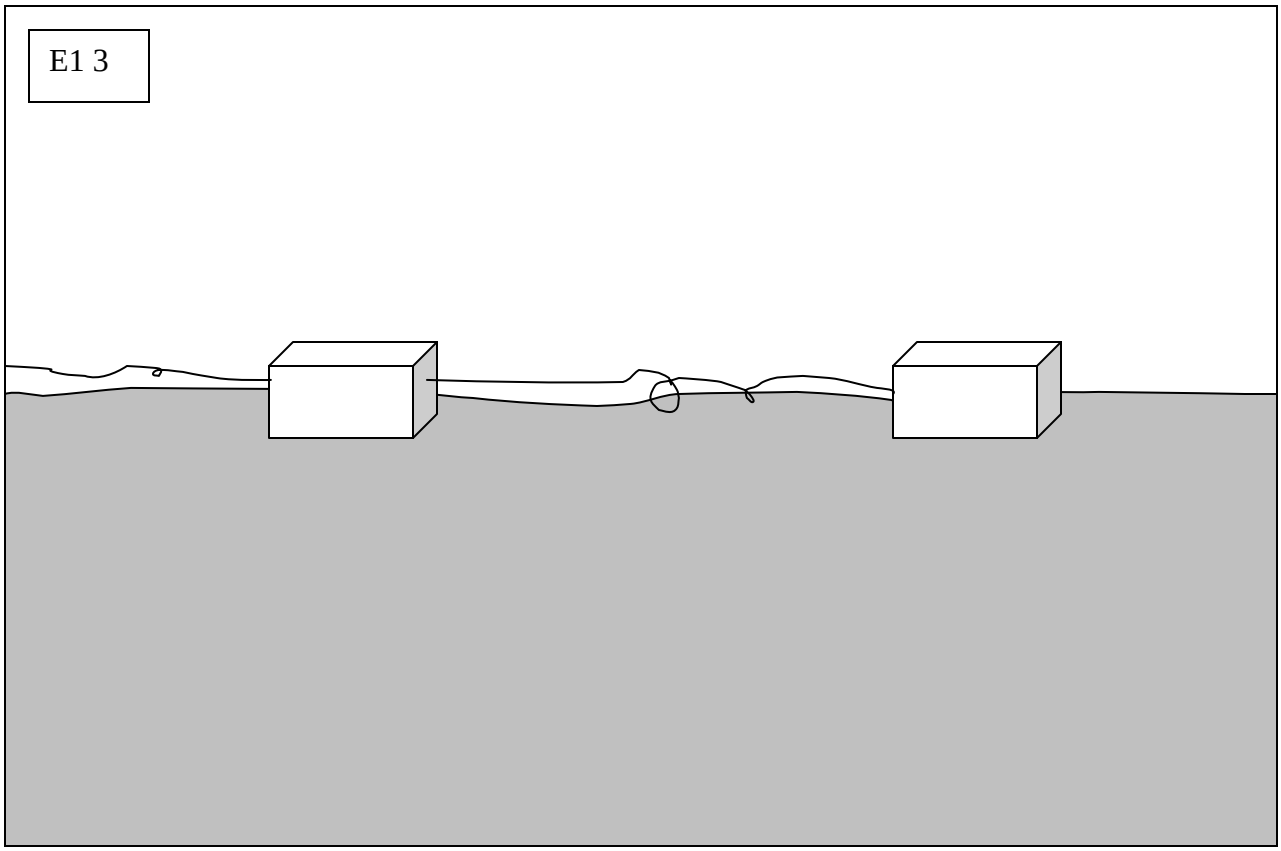
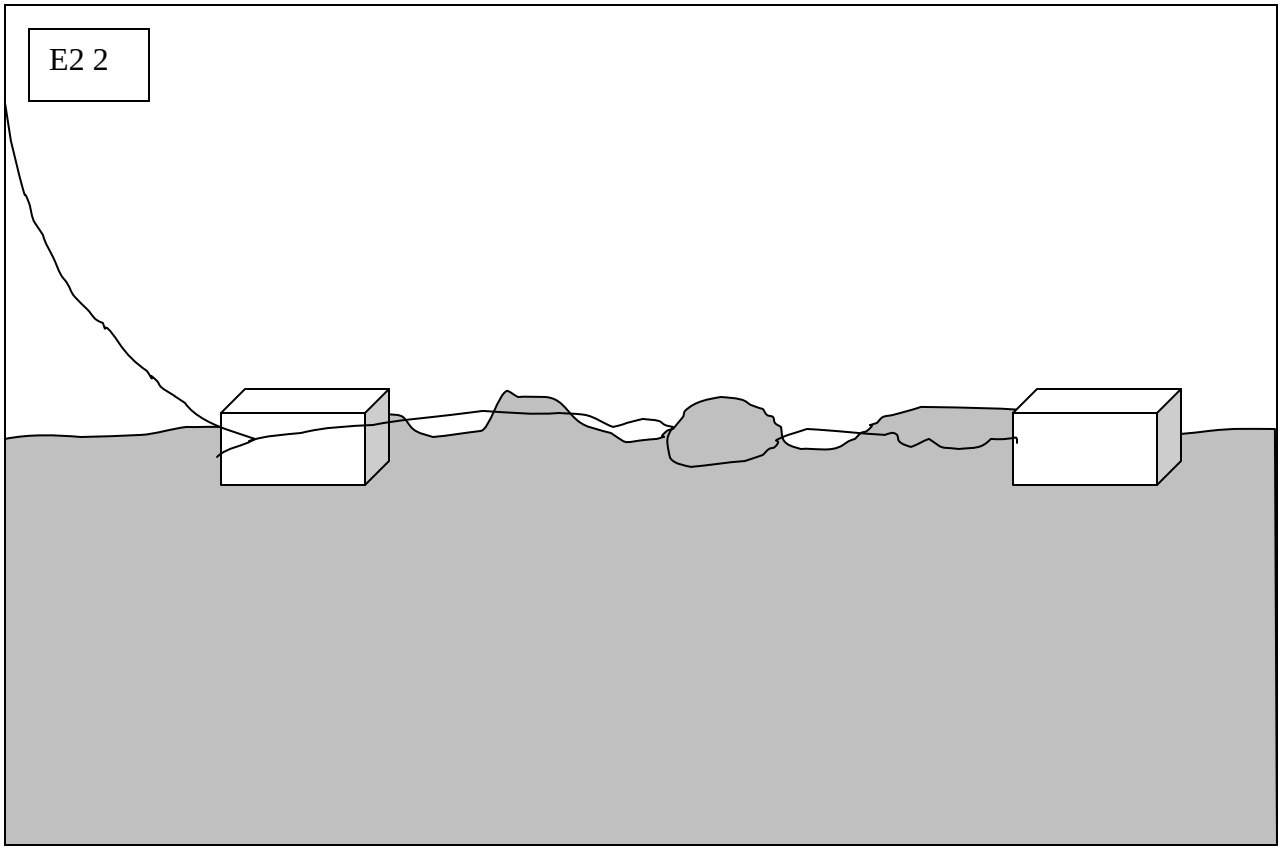
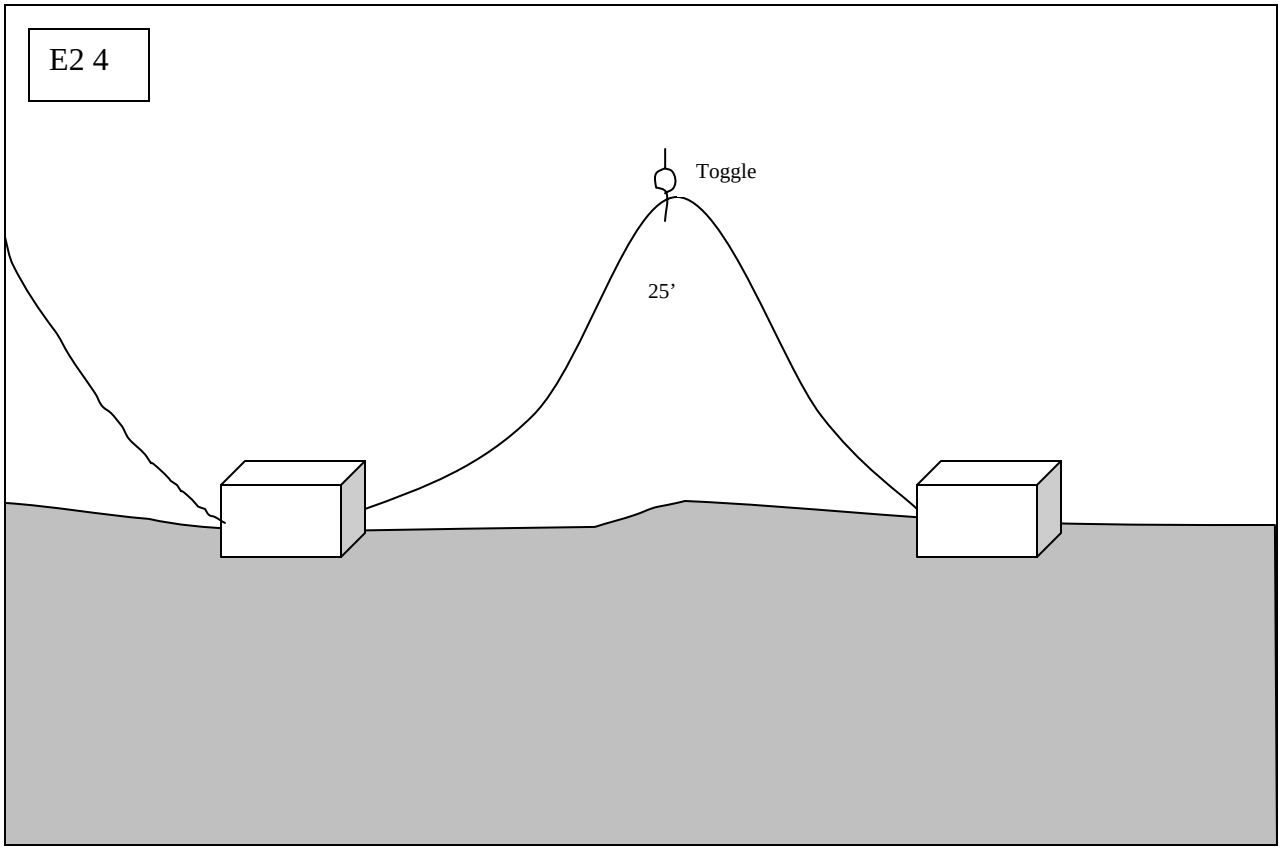
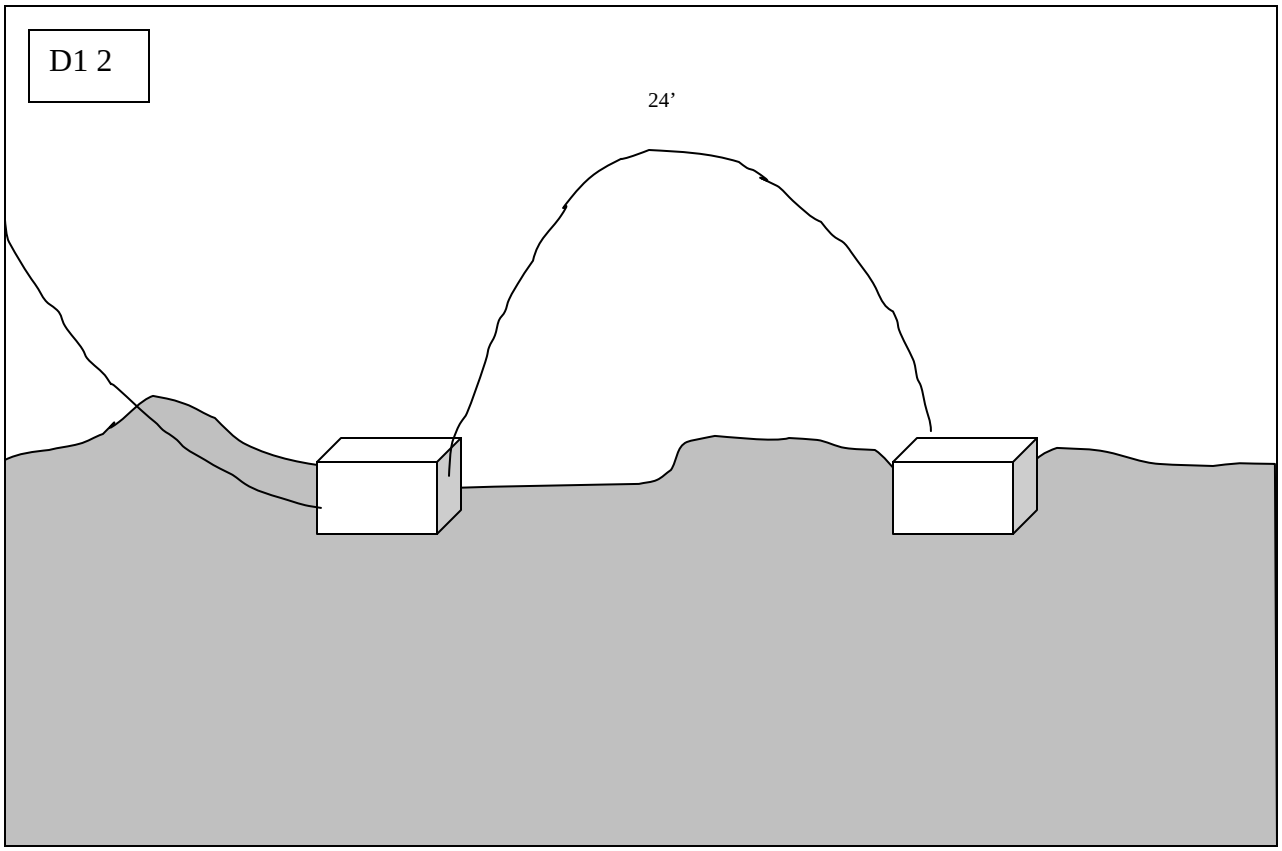

F3 11
4-5’


E1 2
Rock on line

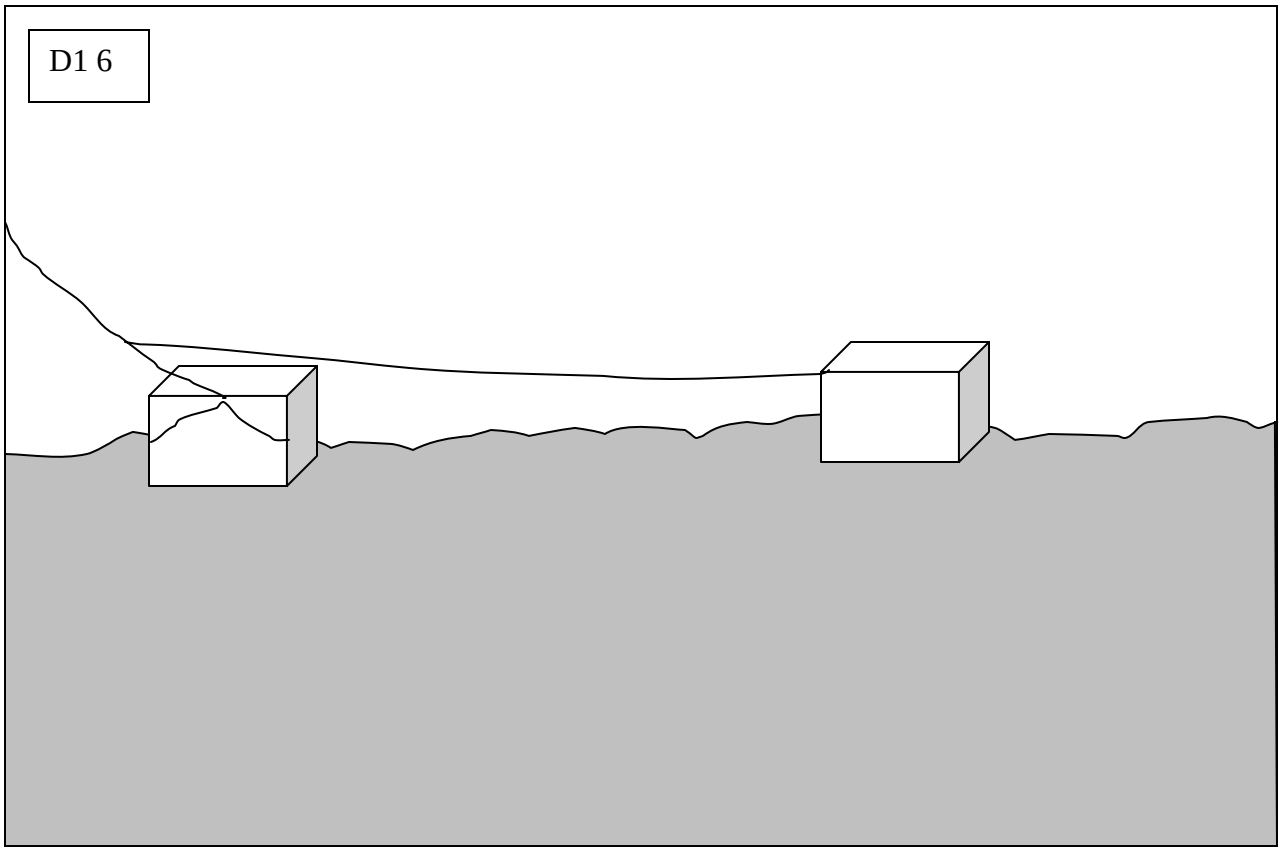

E1 3


E2 2

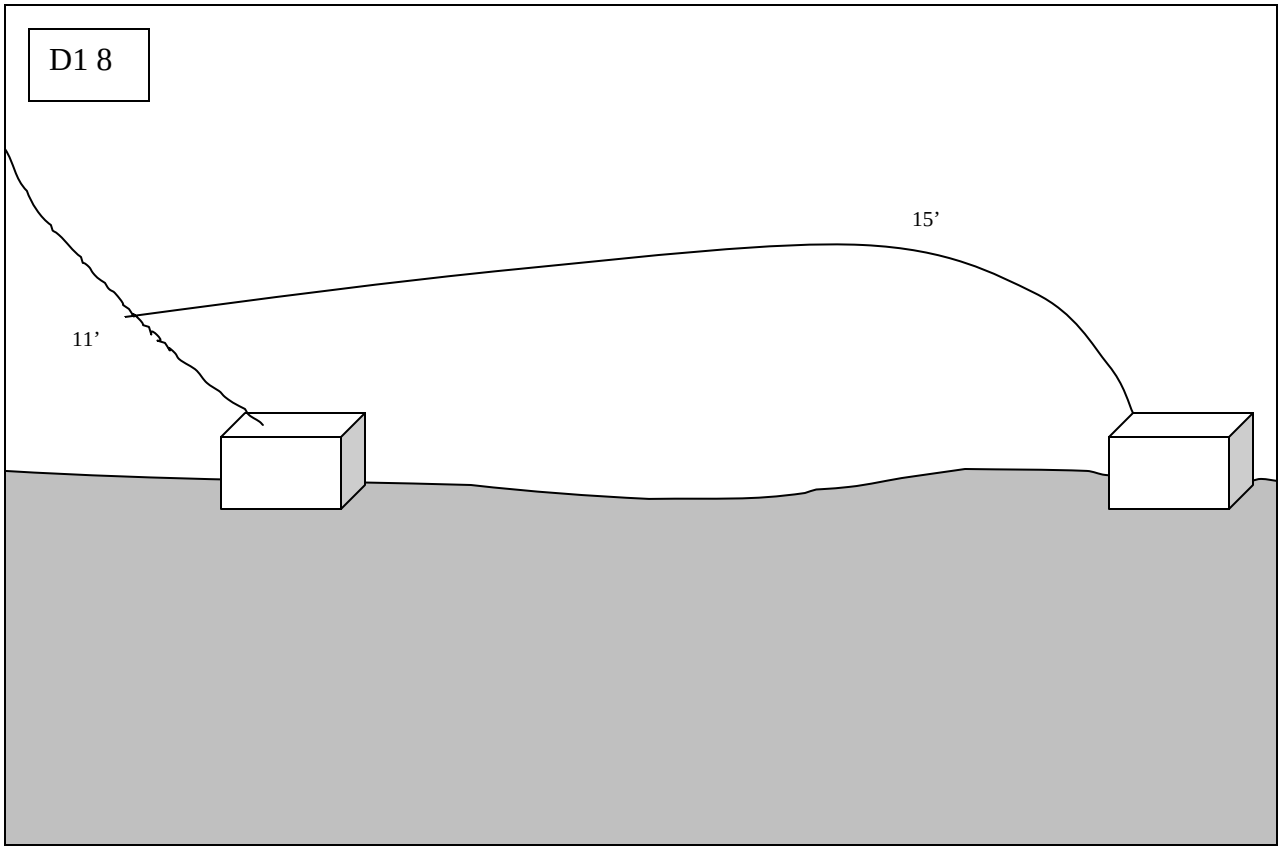

E2 4
Toggle
25’

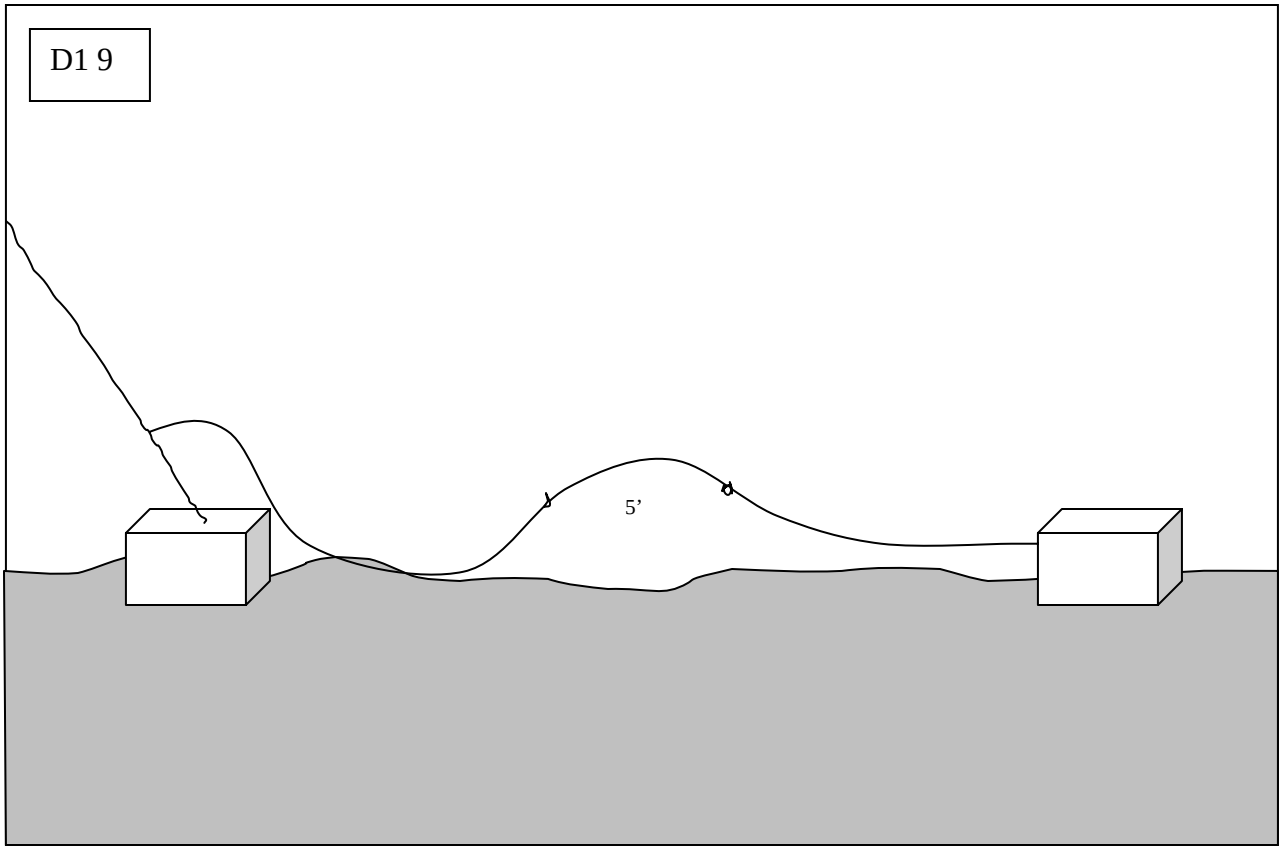

D1 2
24’

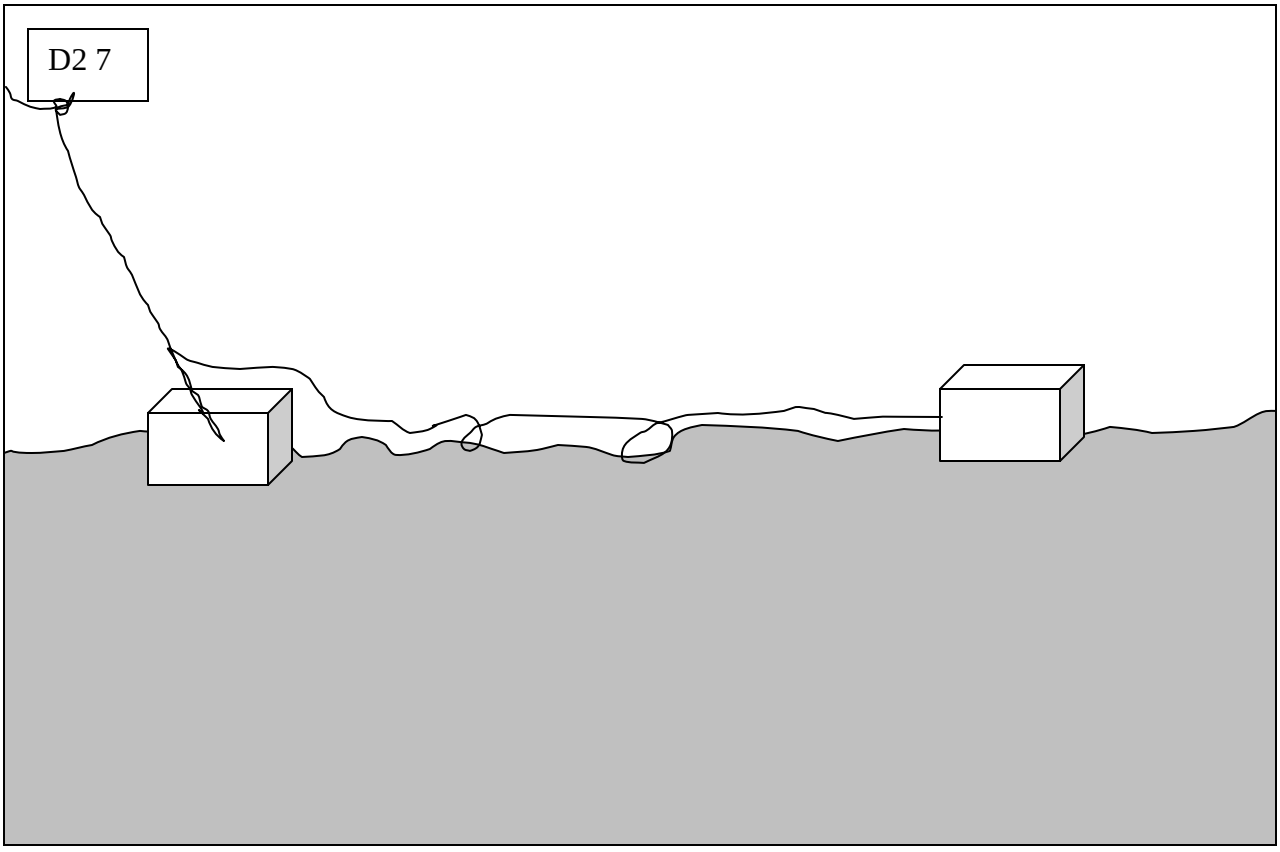
D1 6

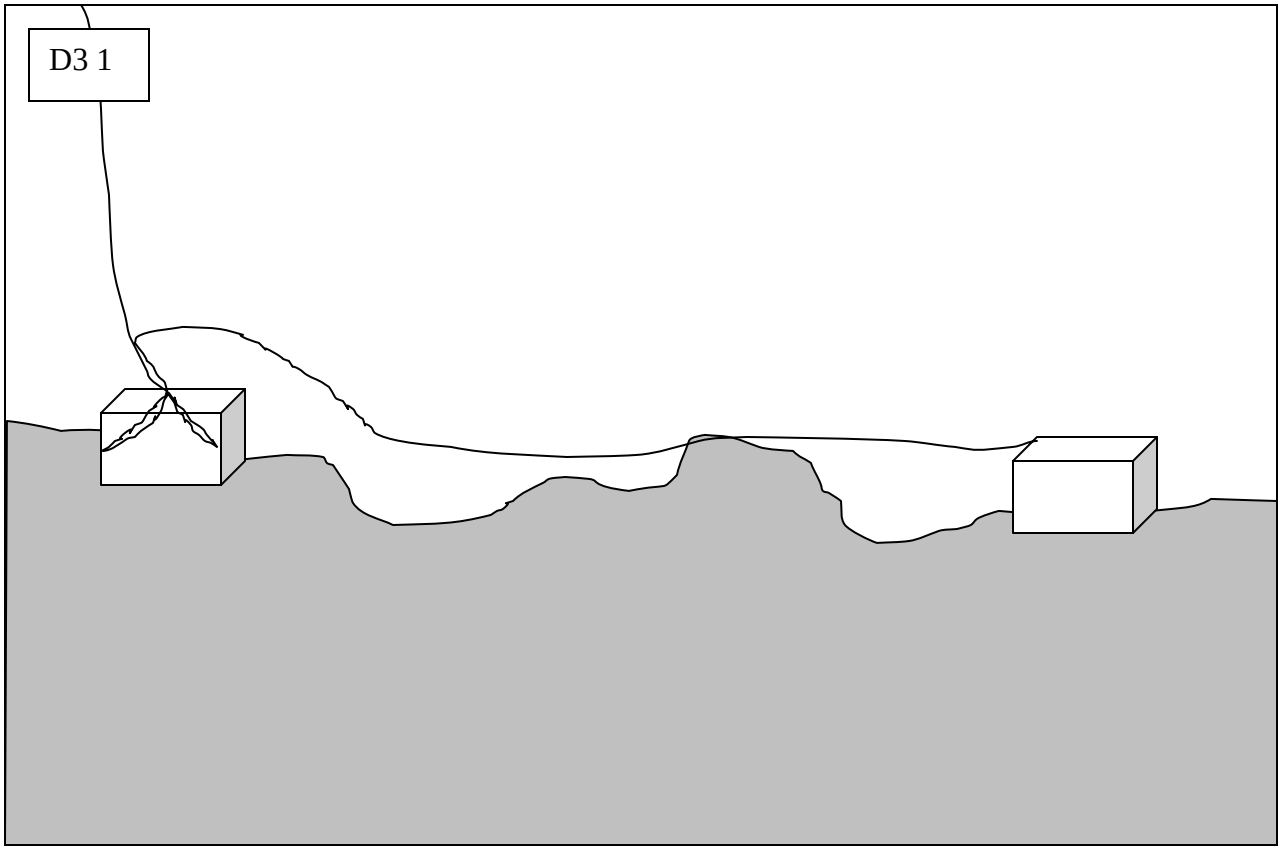


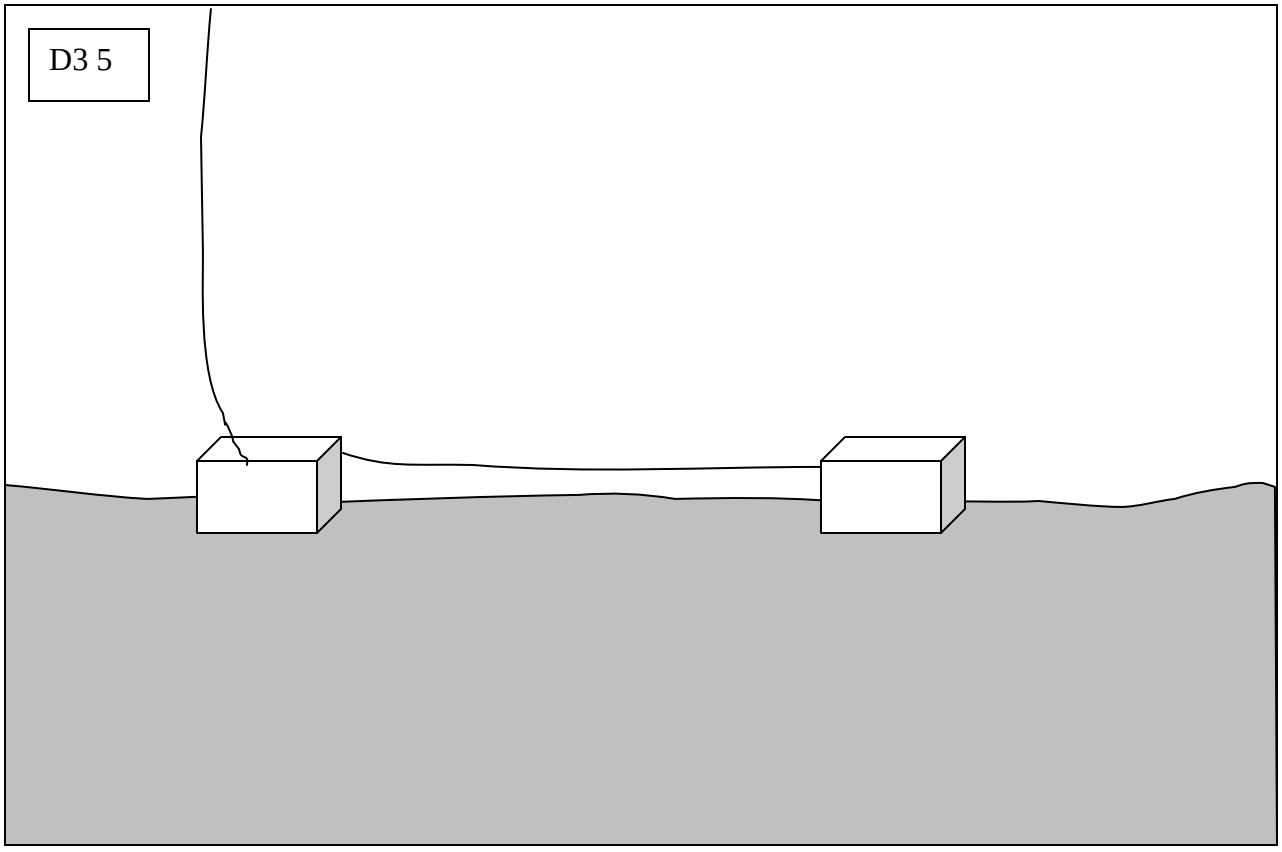
D1 8

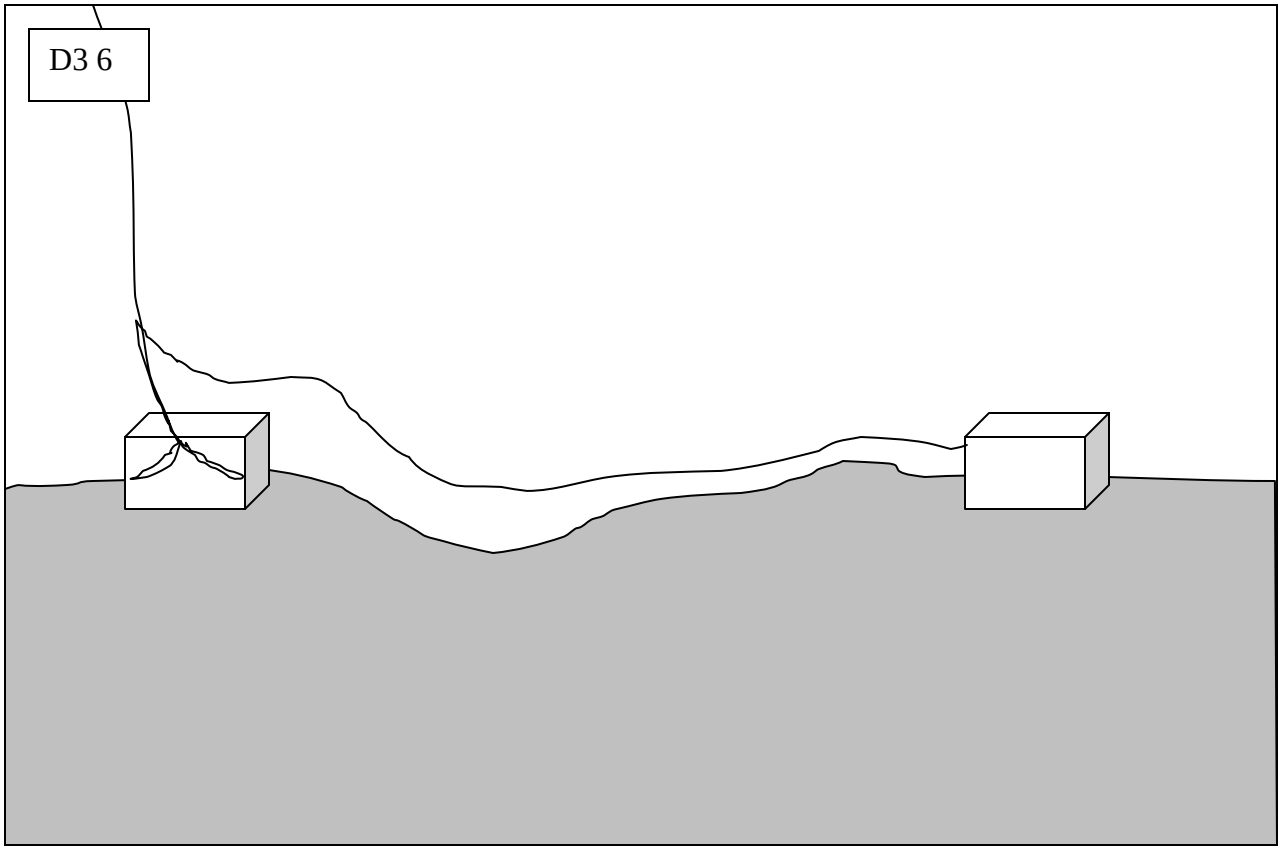



D1 9
5’

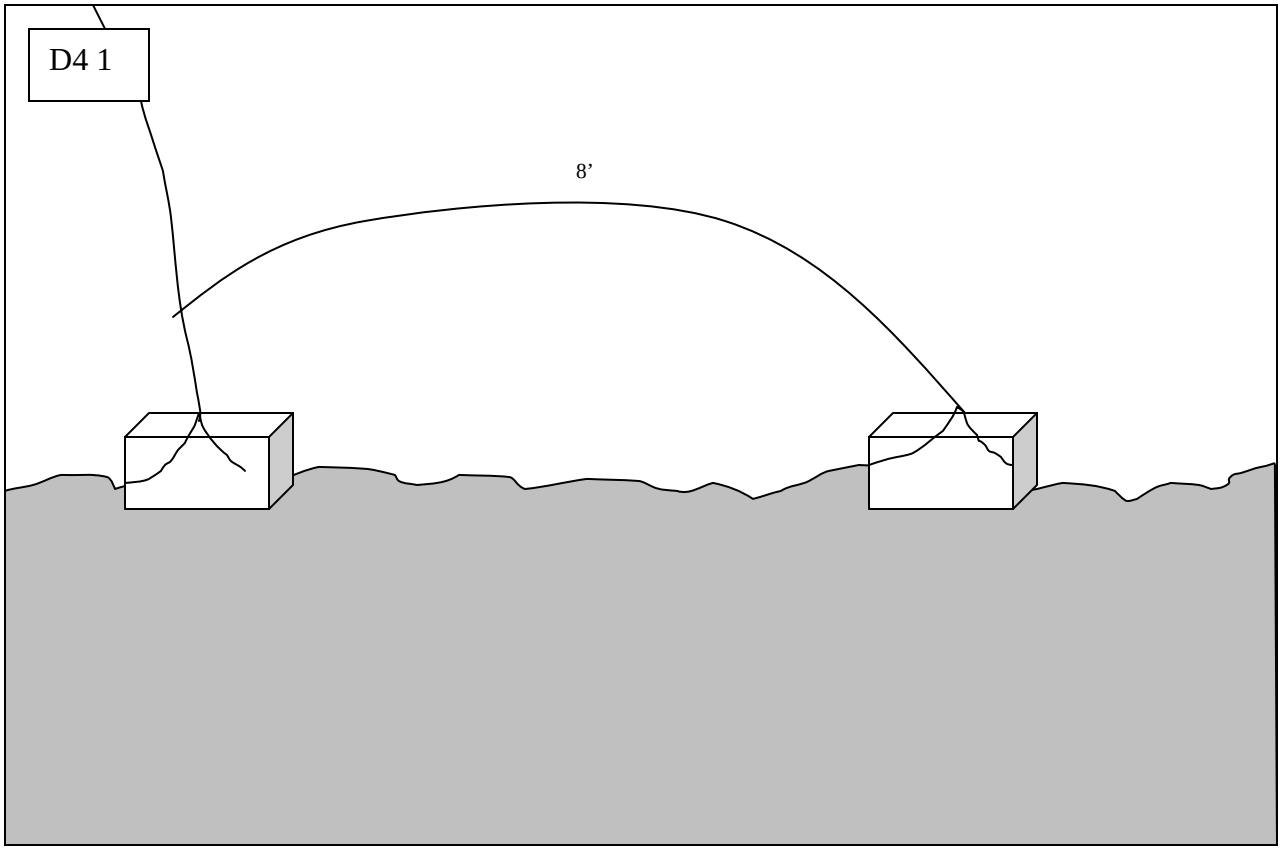

D2 7

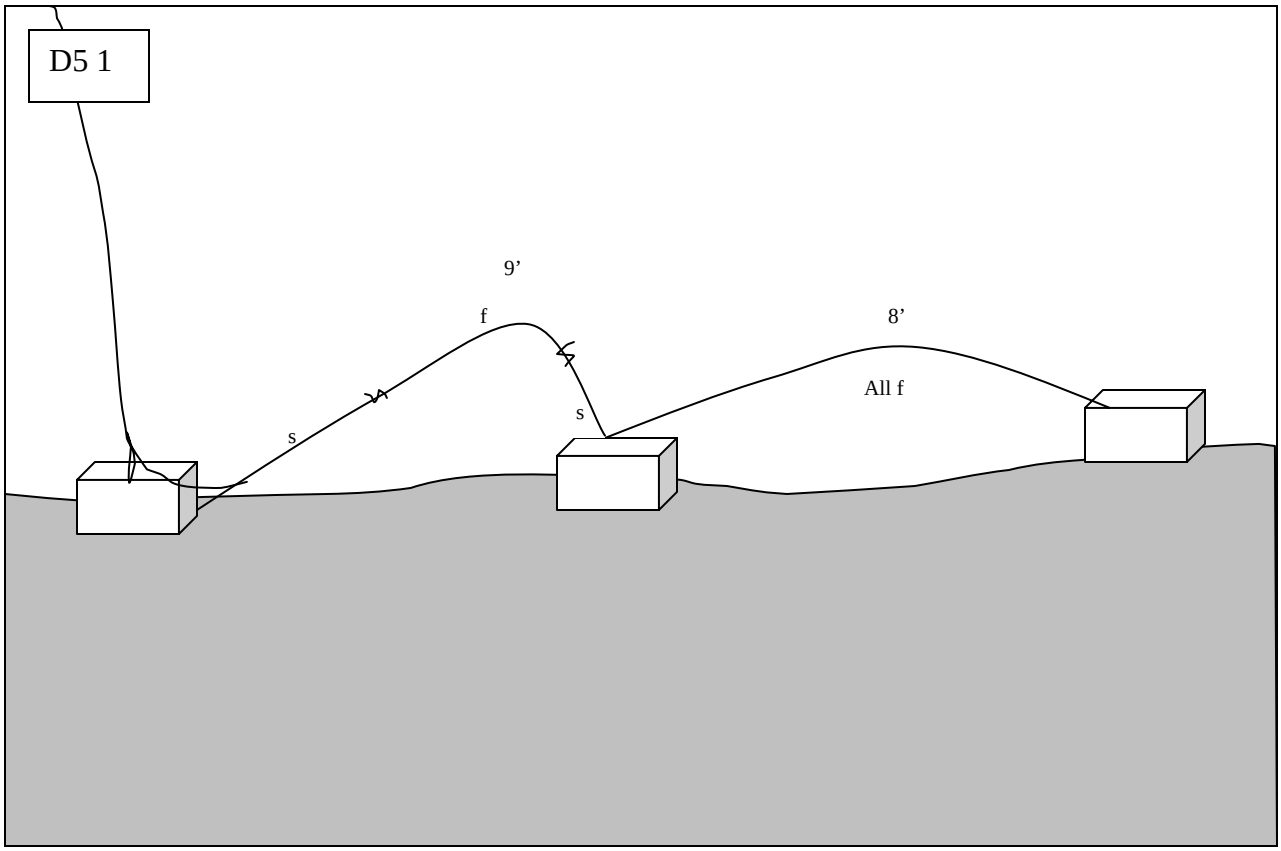

D3 1

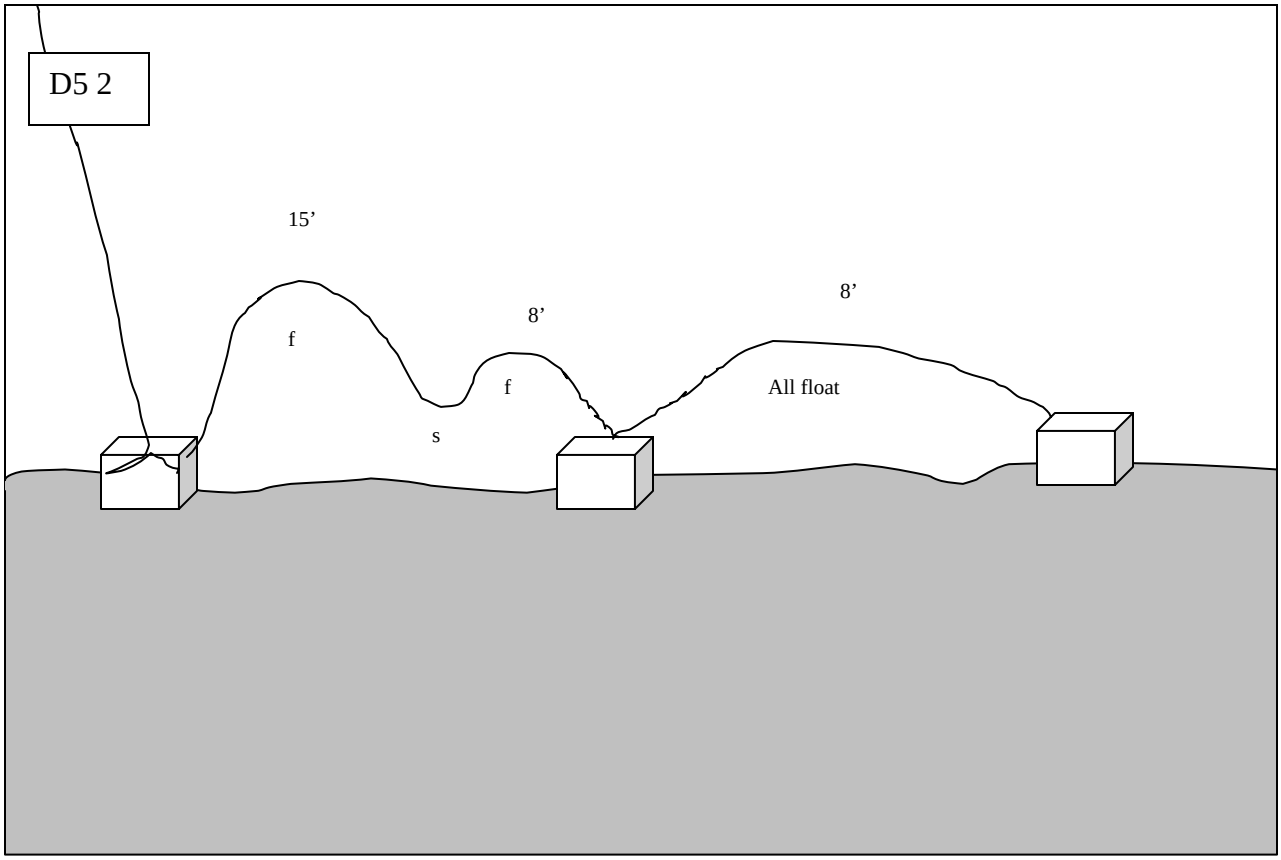

D3 5

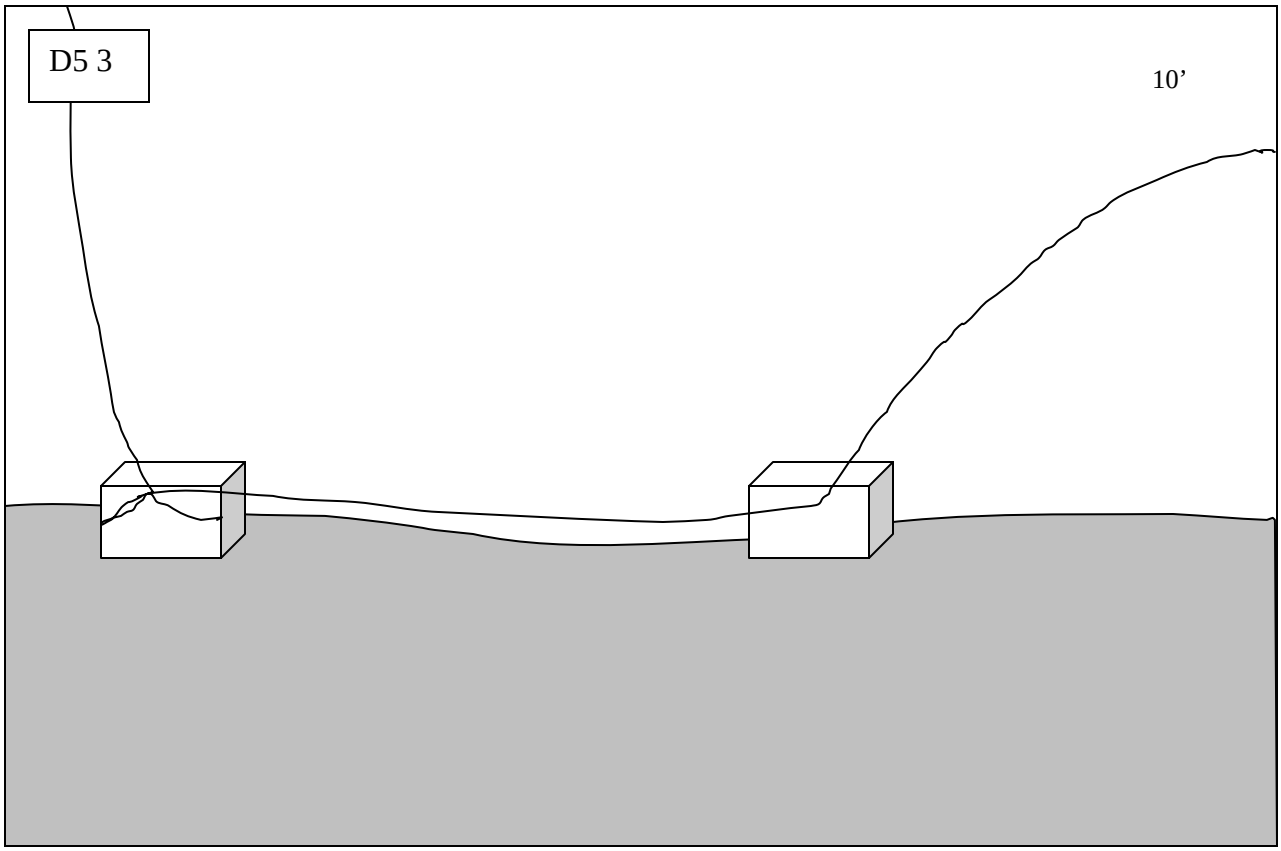


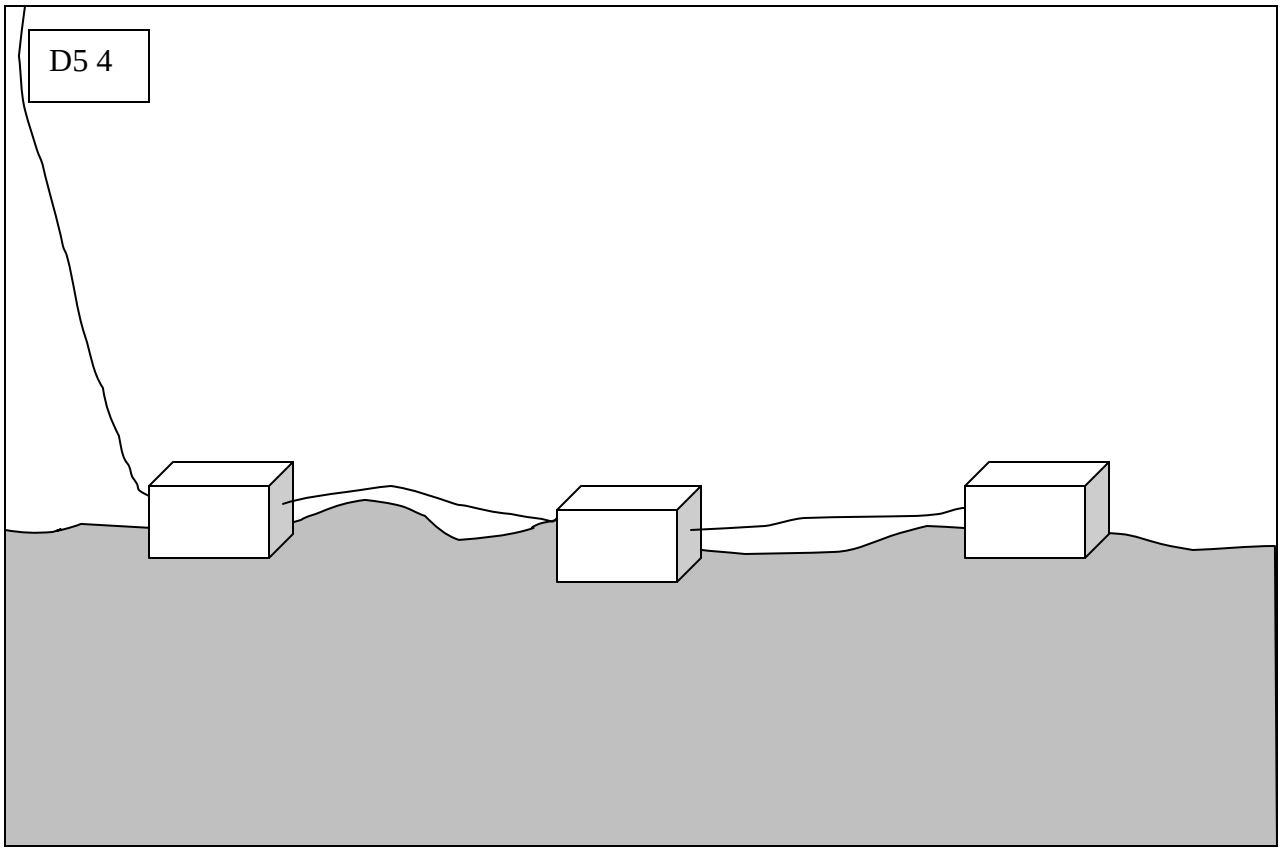
No Drawing

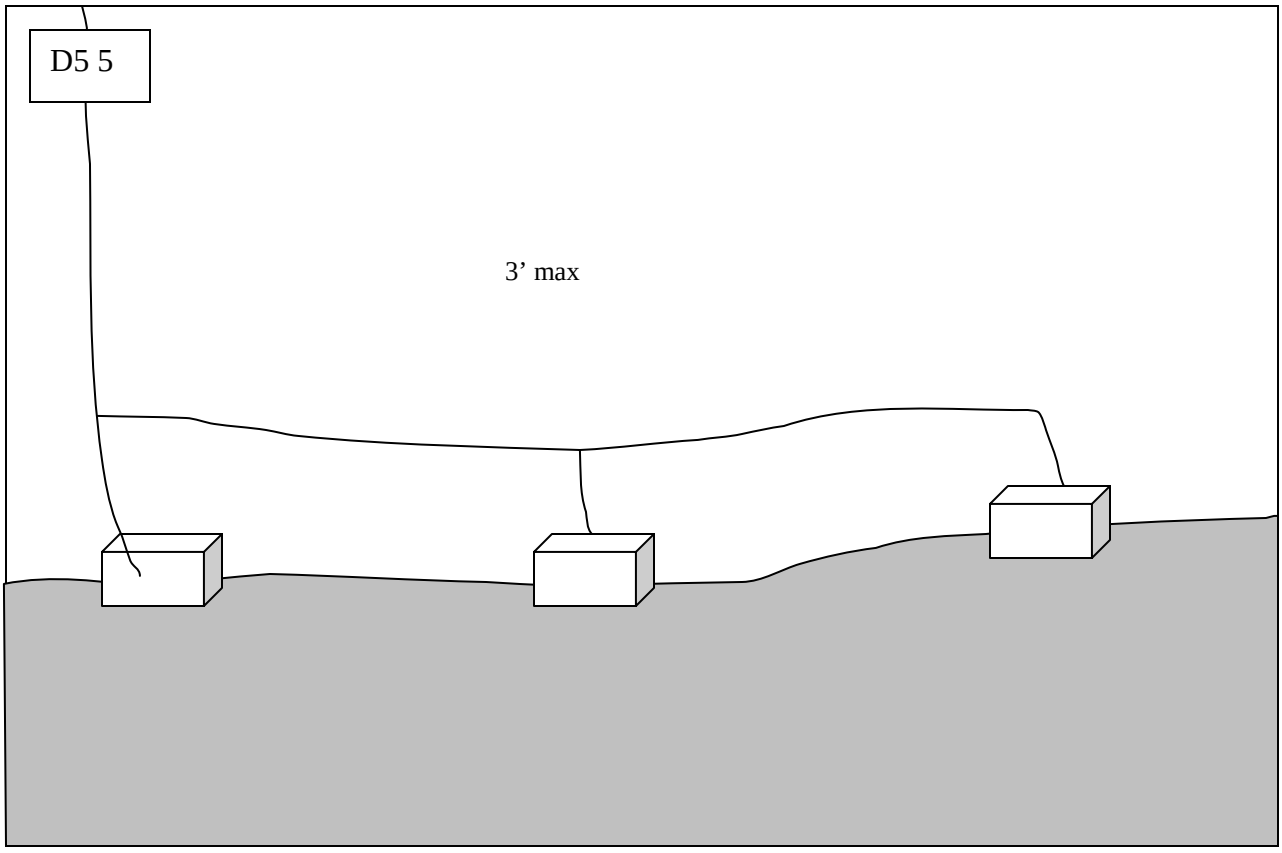

D4 1
8’

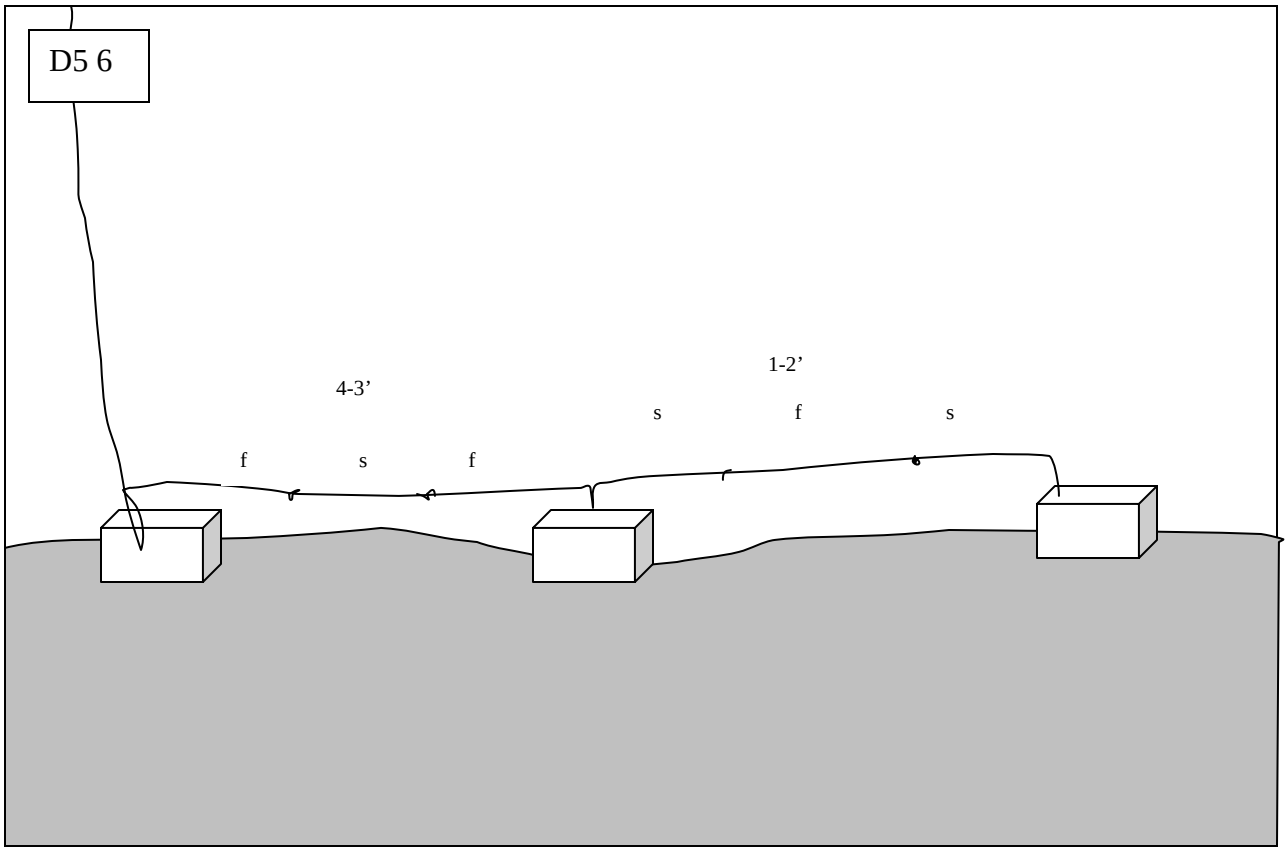

D5 1
9’
f
8’
All f
s
s

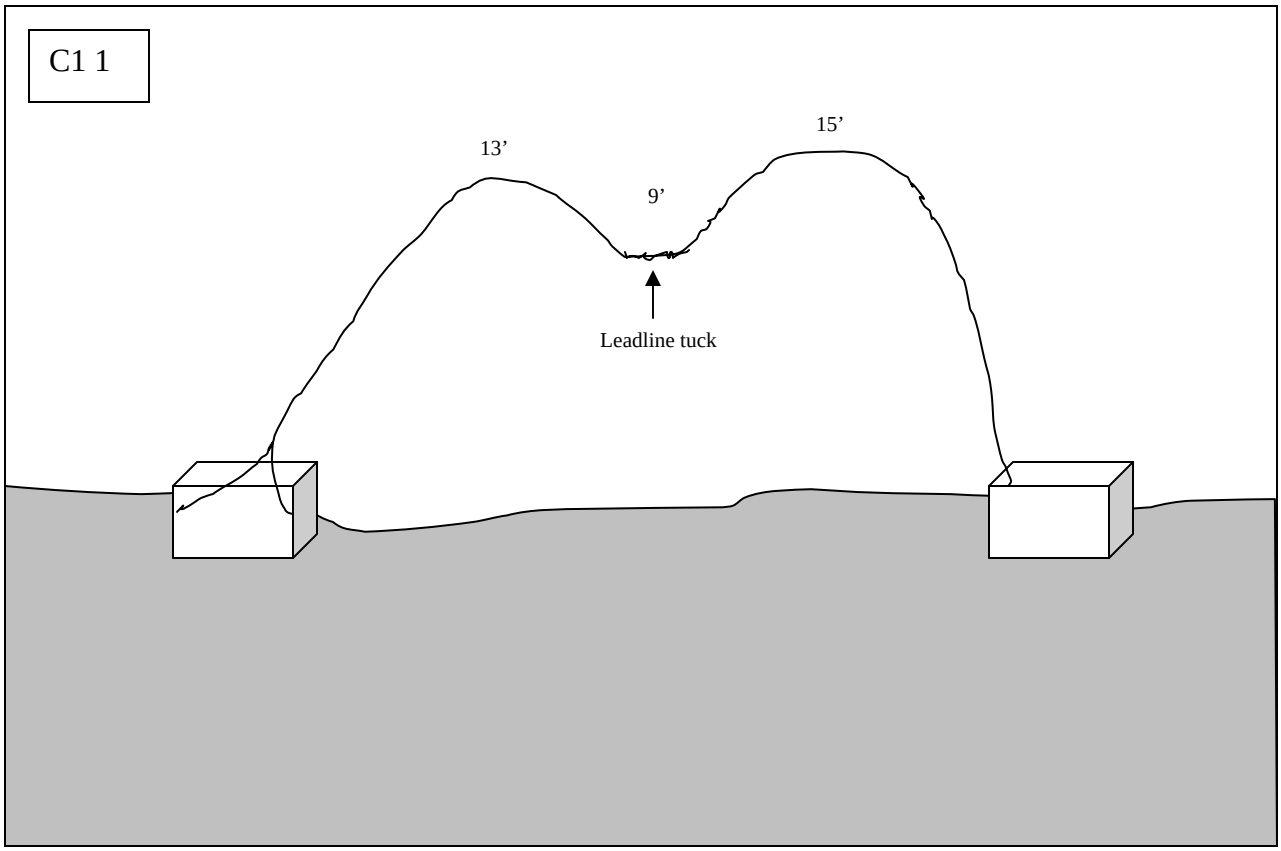

D5 2
15’
8’
8’
f
f
s
All float

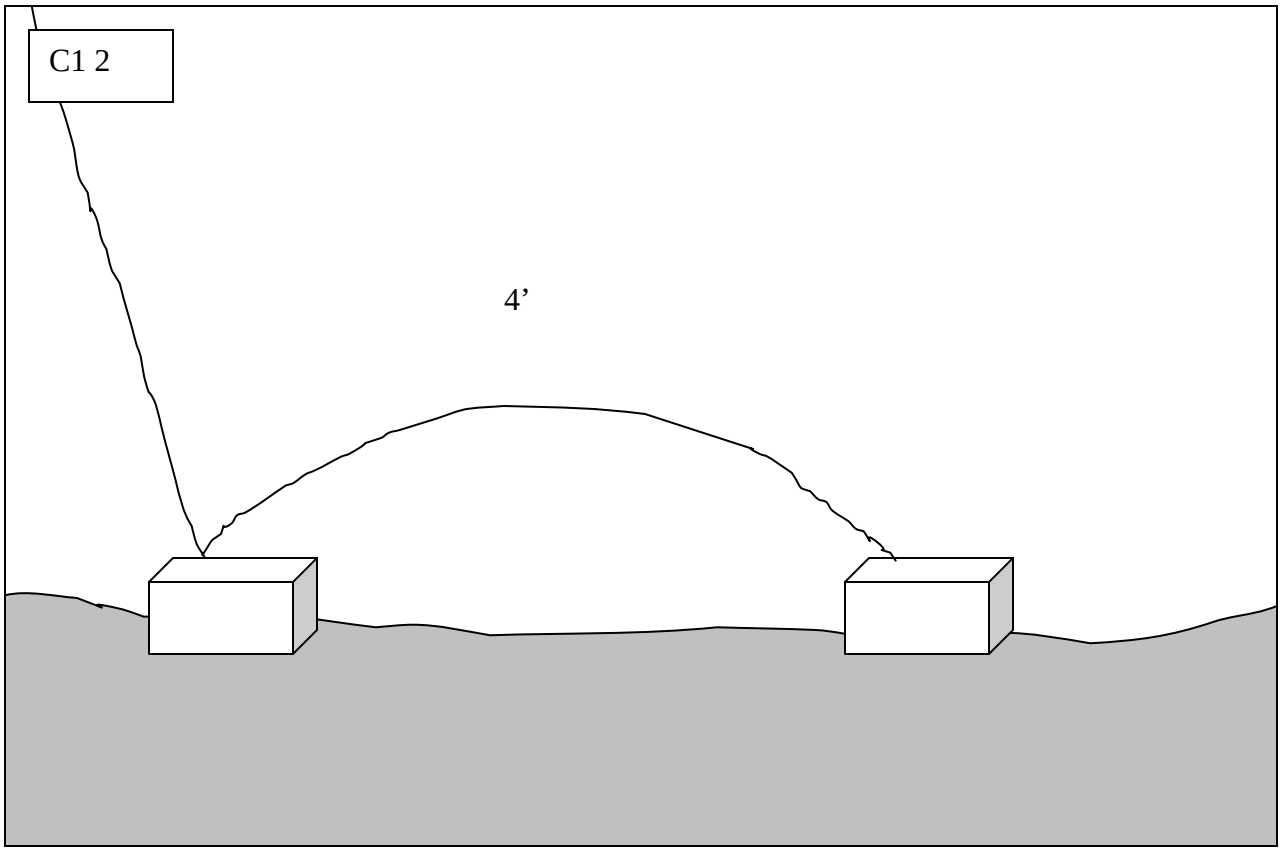

D5 3
10’

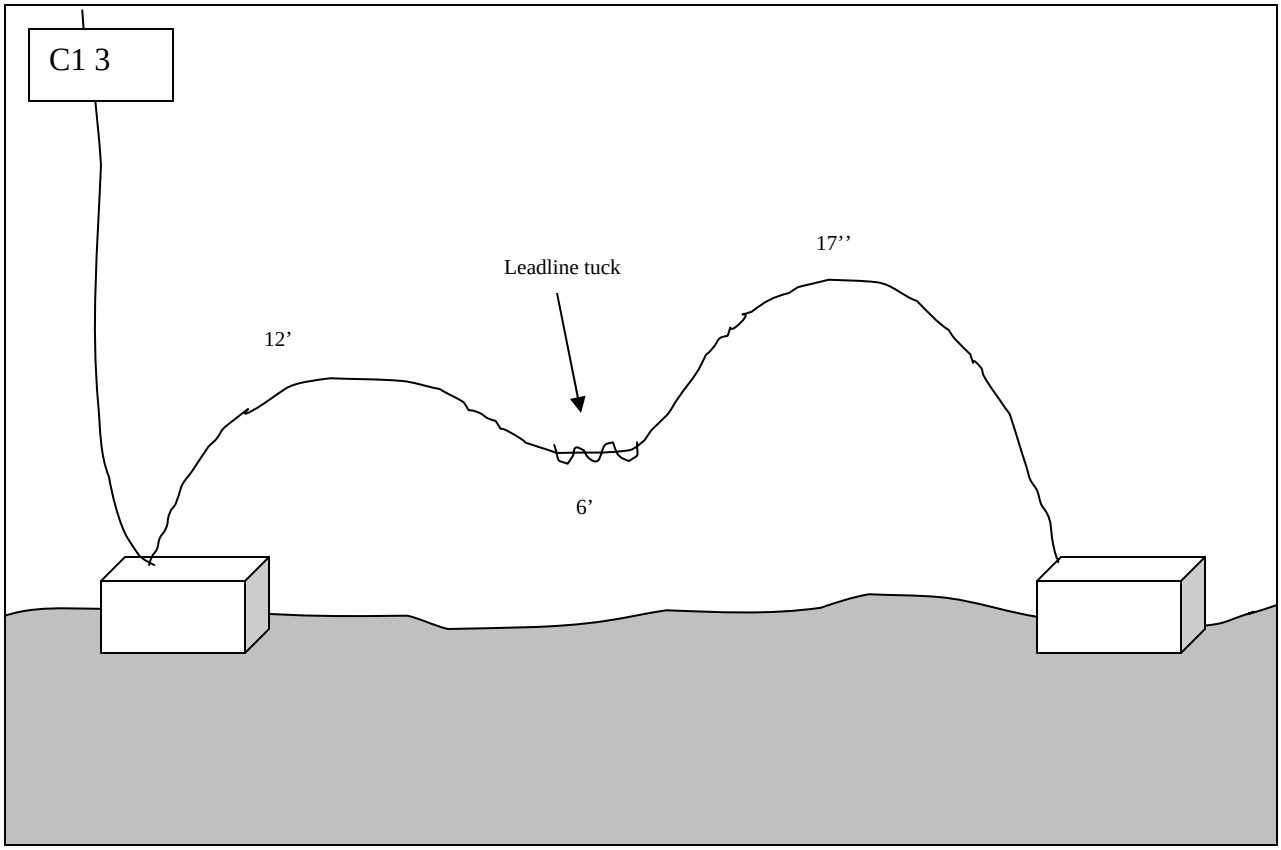

D5 4

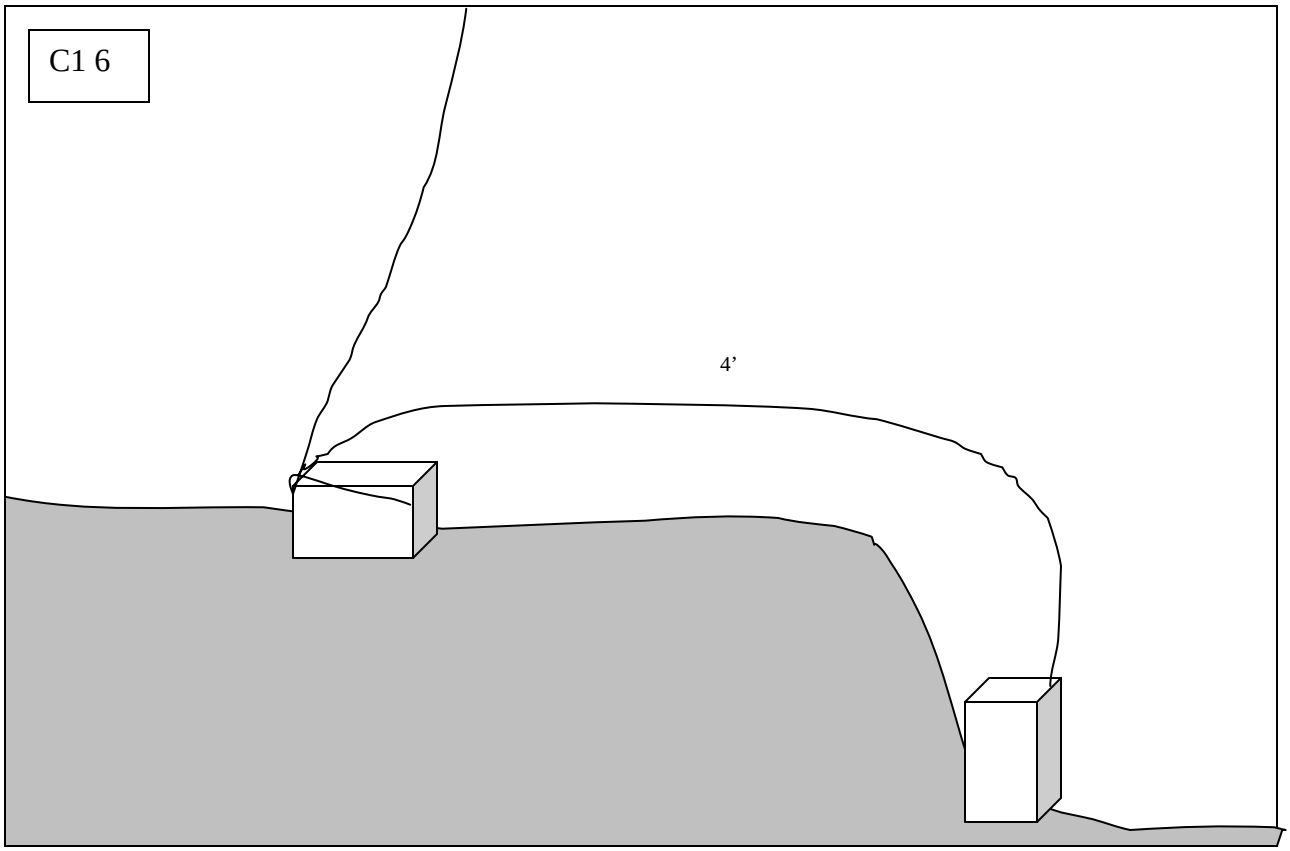

D5 5
3’ max

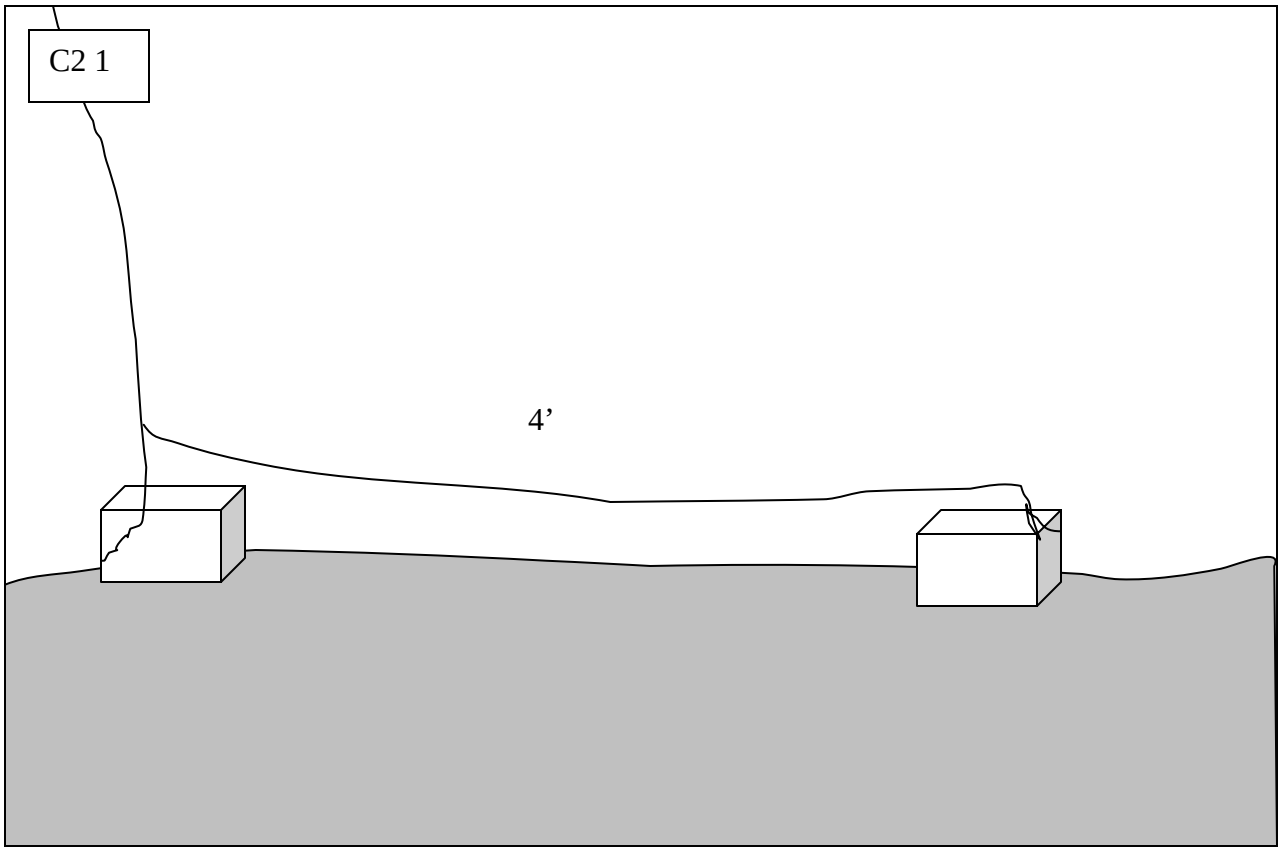

D5 6
4-3’
1-2’
f
s
f
s
f
s

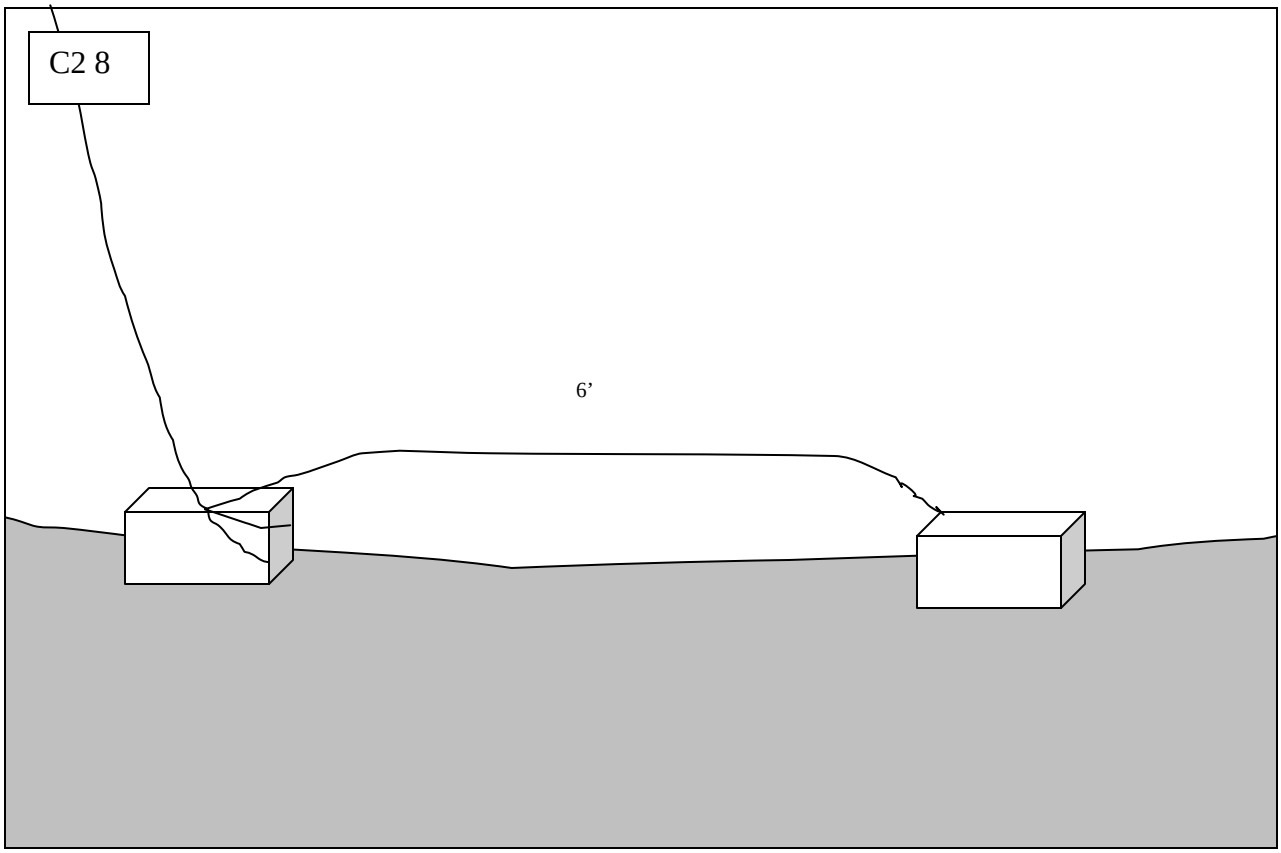

C1 1
13’
9’
15’
Leadline tuck

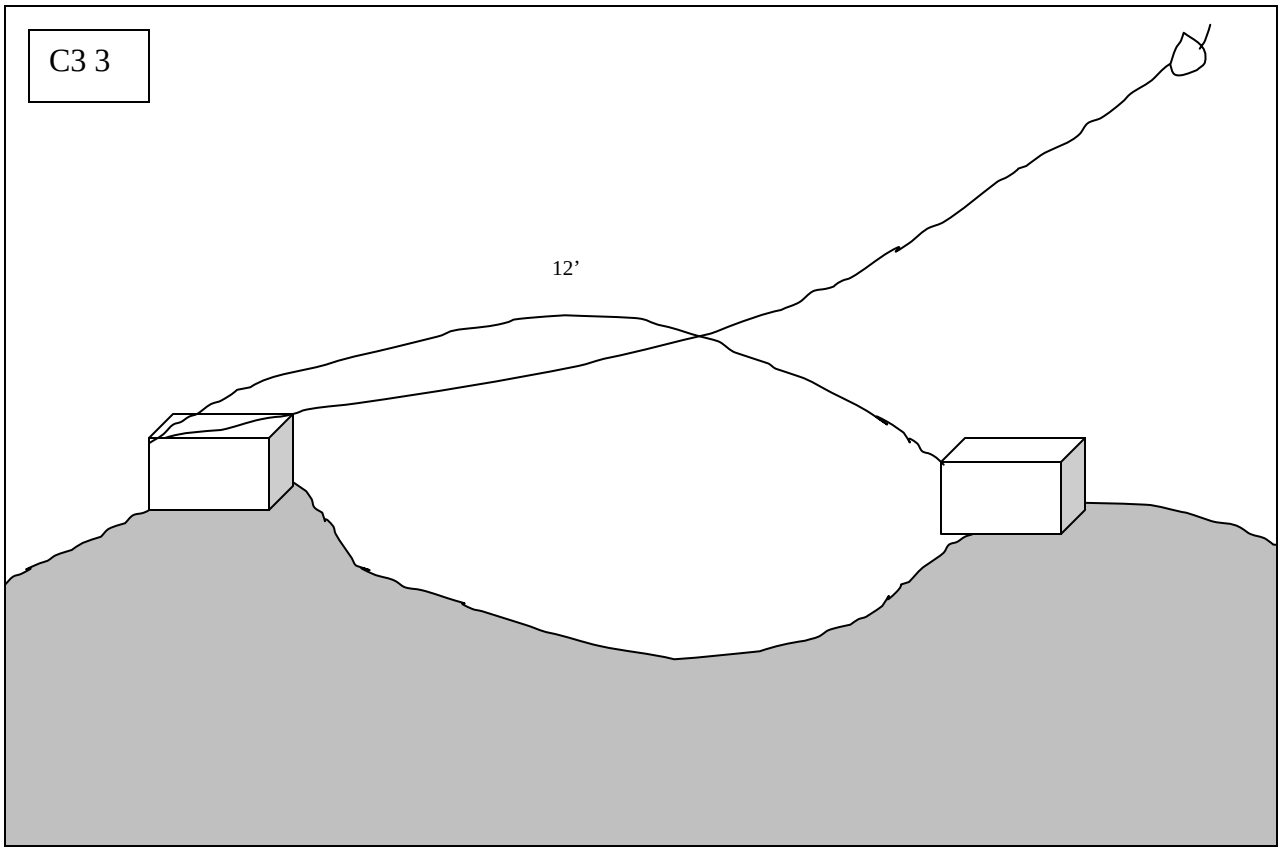

C1 2
4’

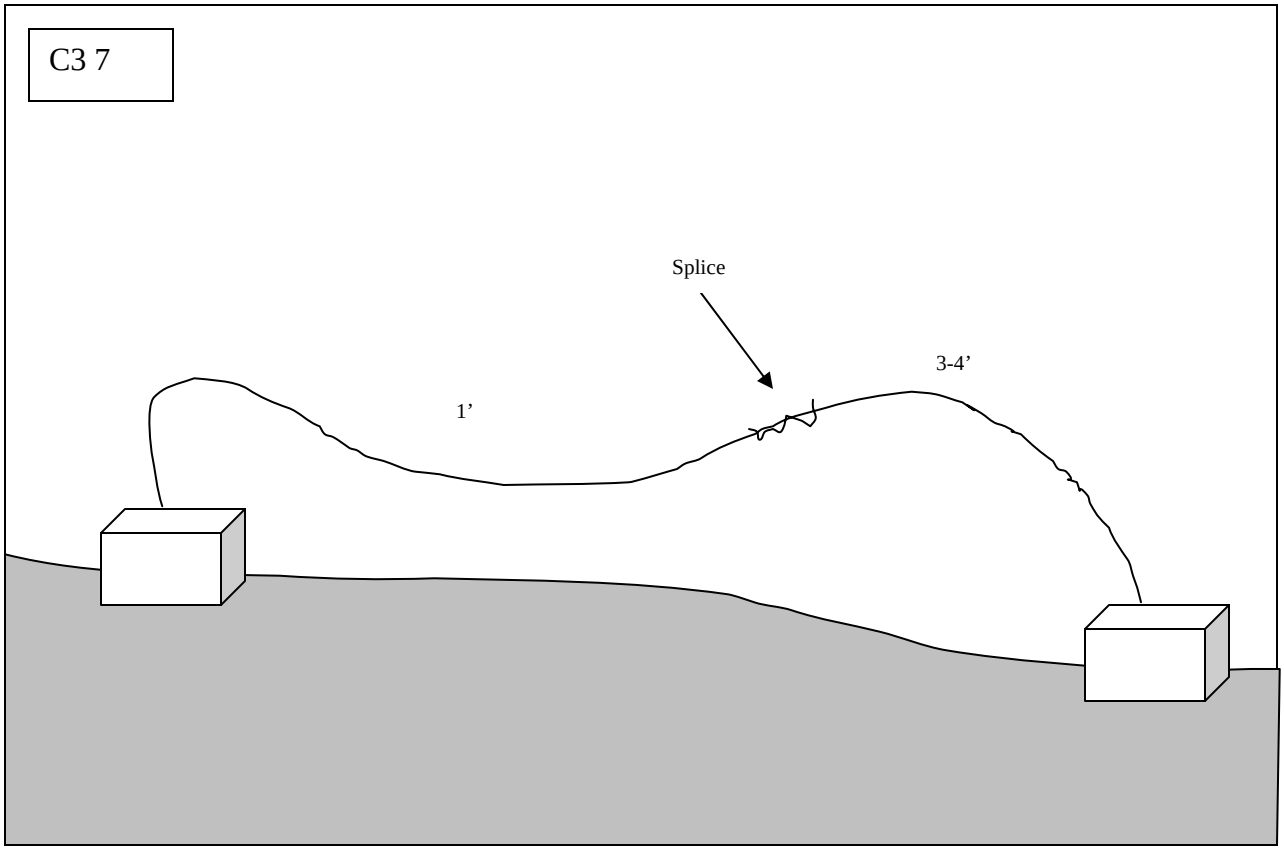

C1 3
17’’
Leadline tuck
12’
6’

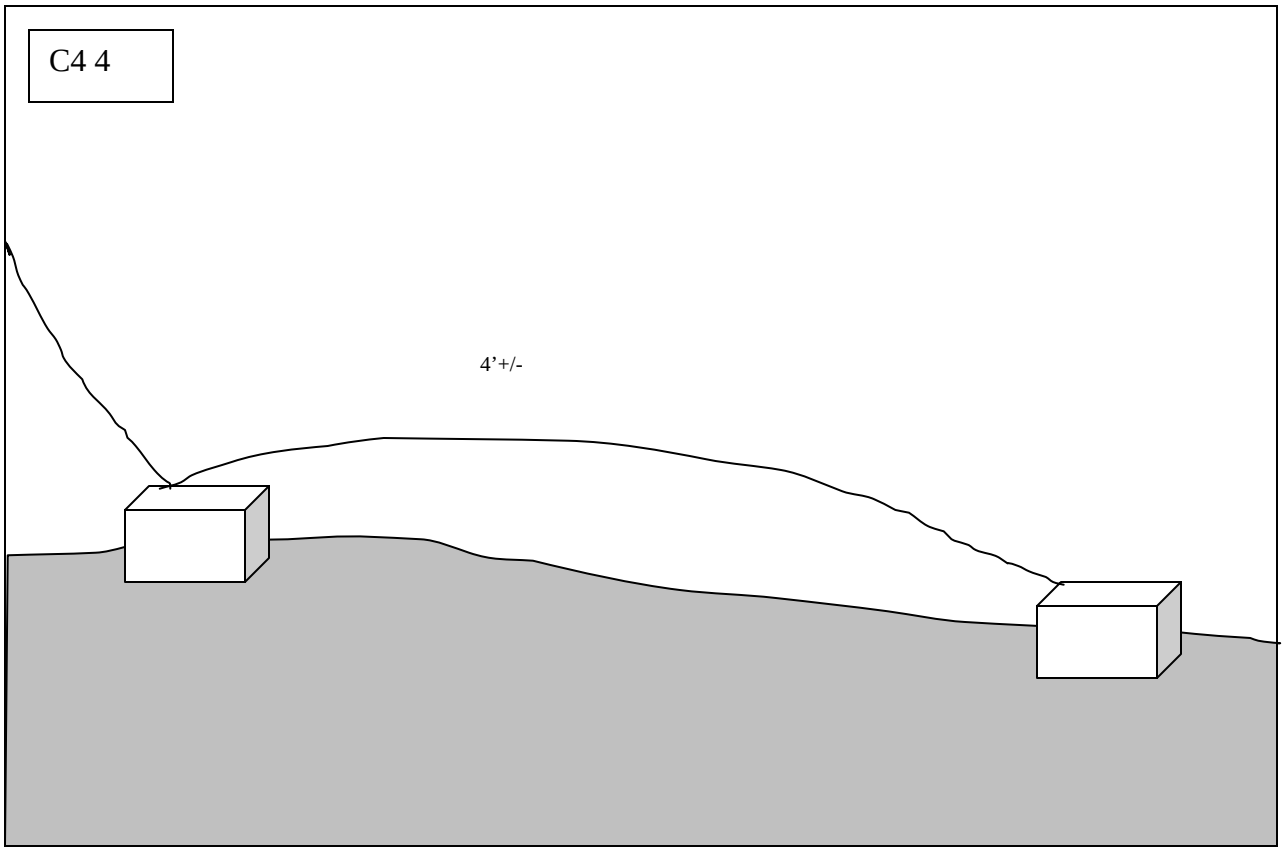

C1 6
4’

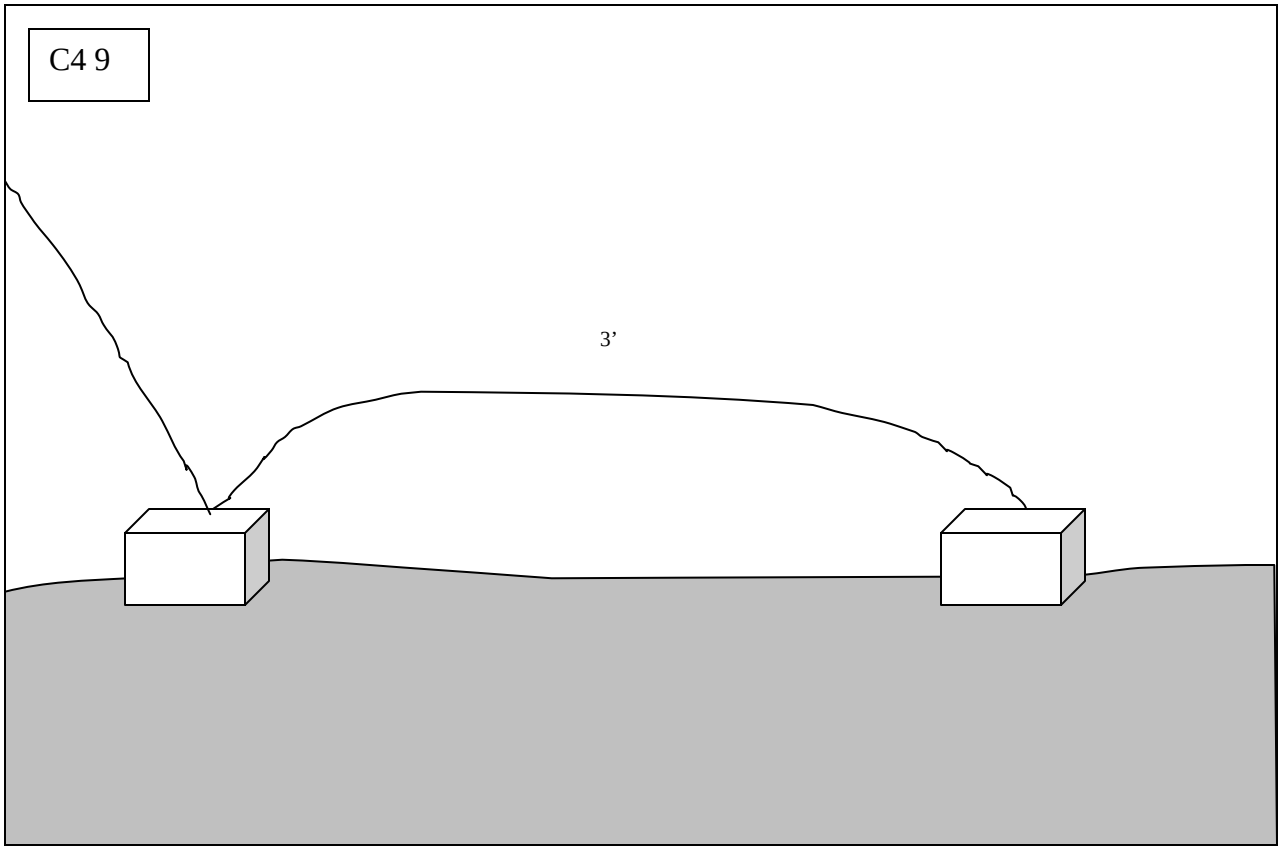

C2 1
4’

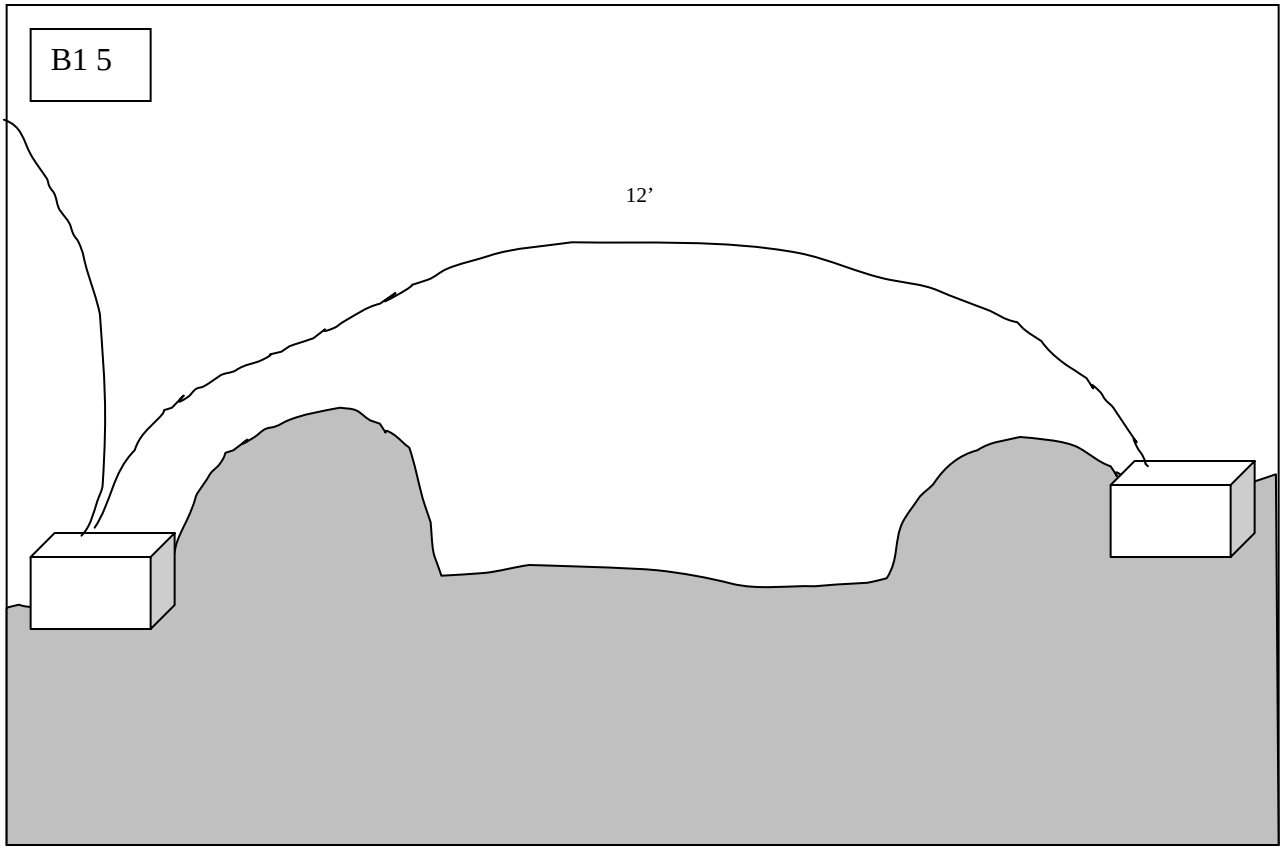

C2 8
6’

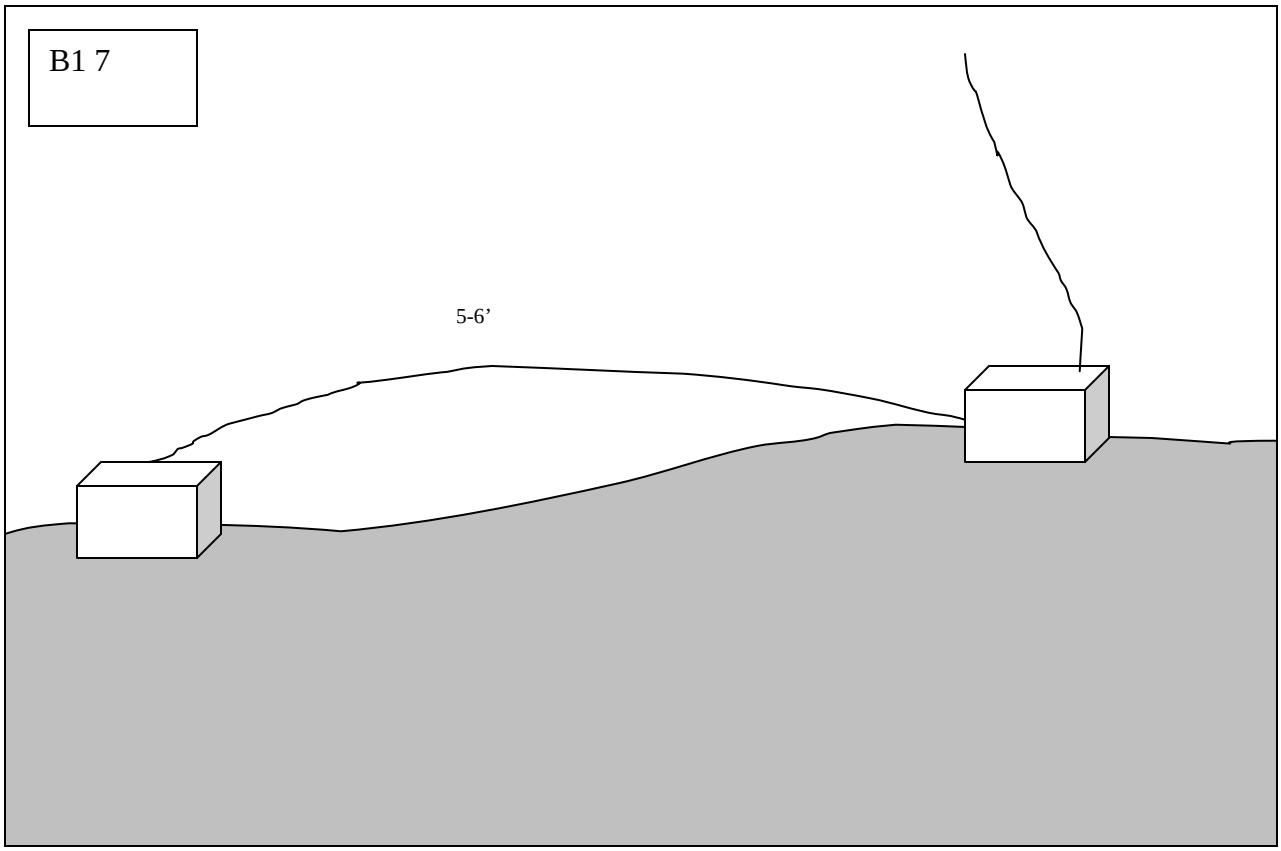

C3 3
12’

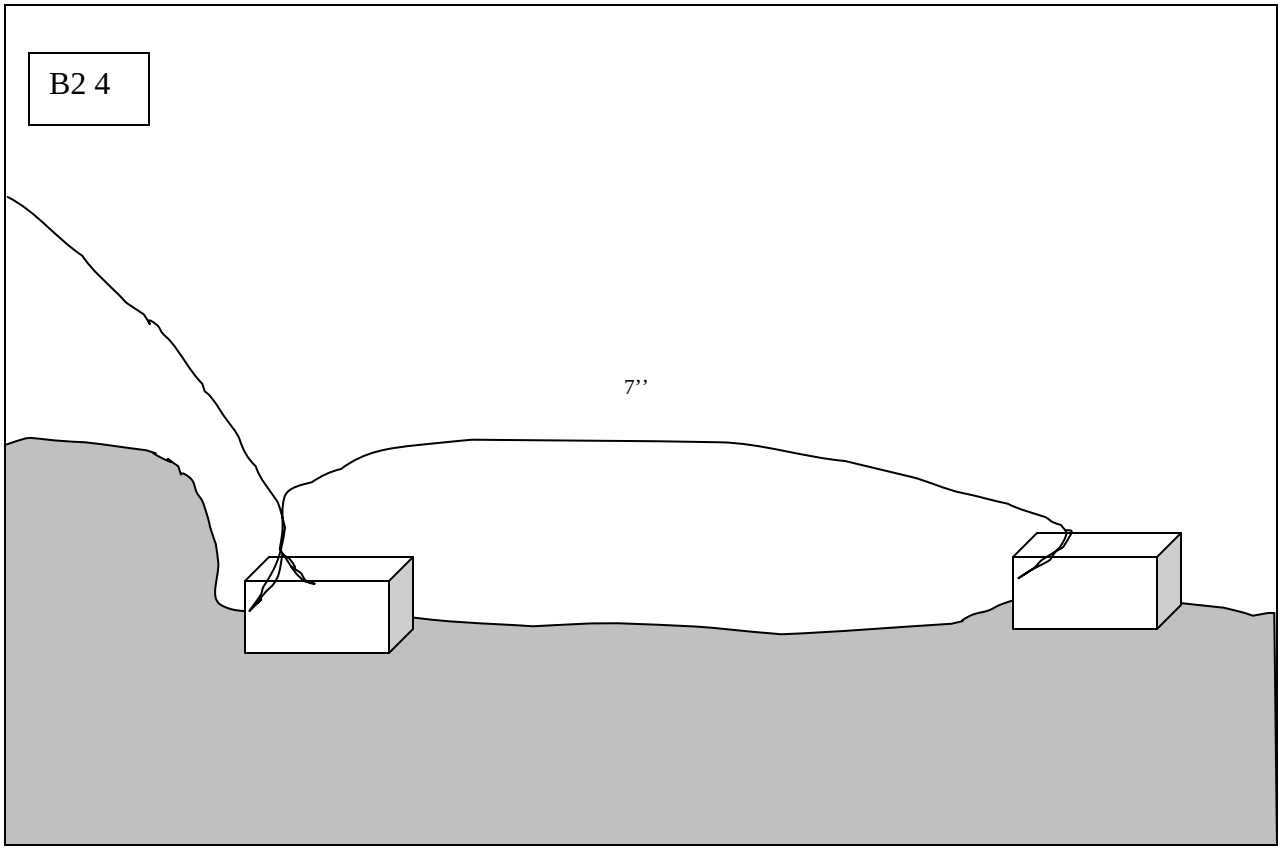

C3 7
Splice
3-4’
1’

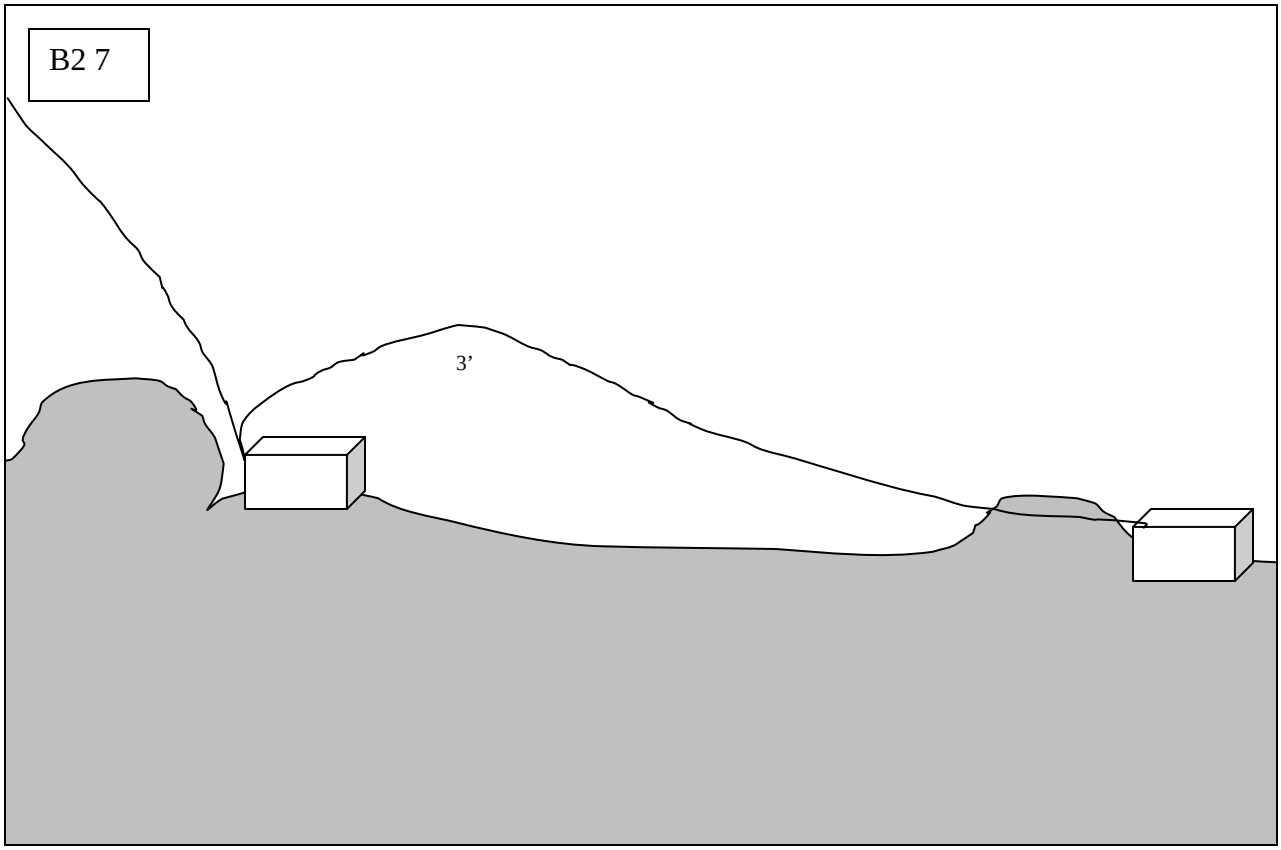

C4 4
4’+/-

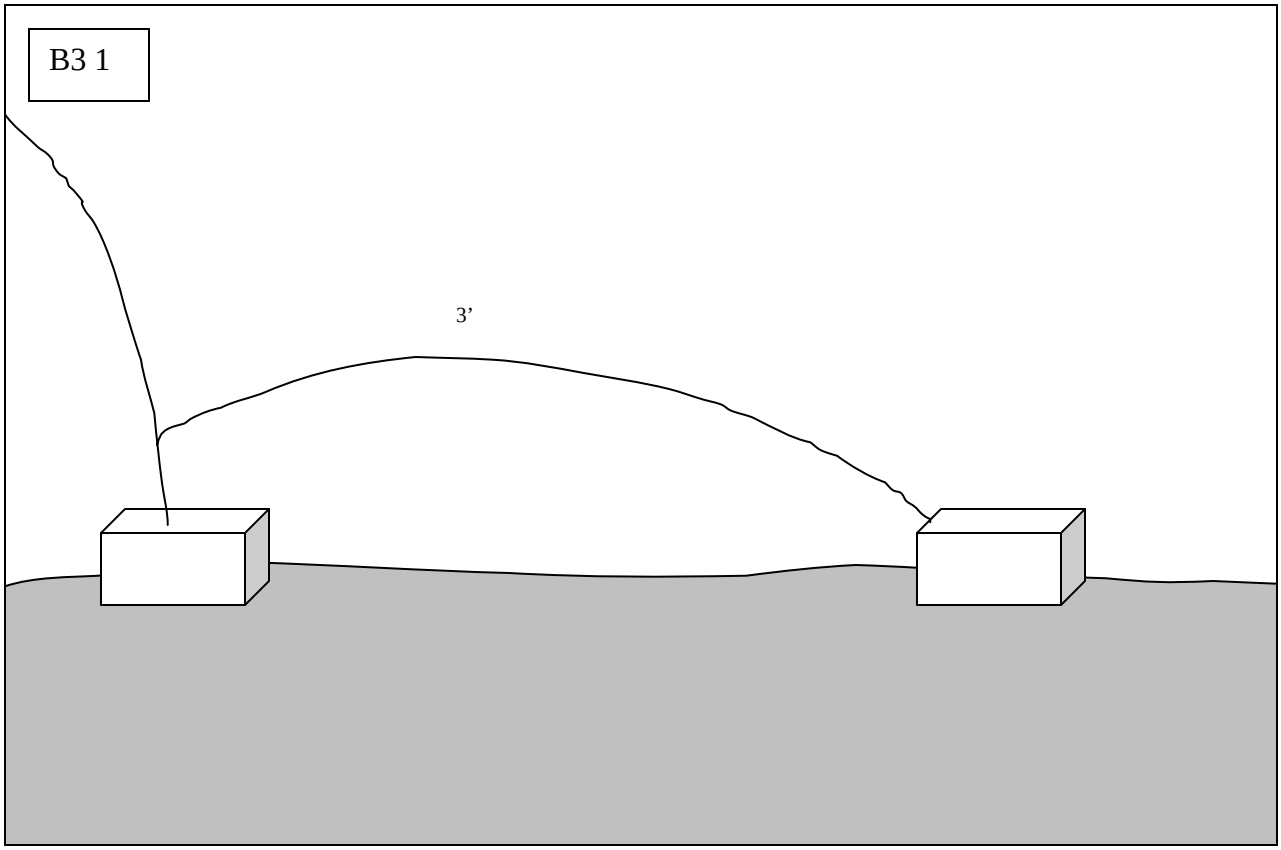

C4 9
3’

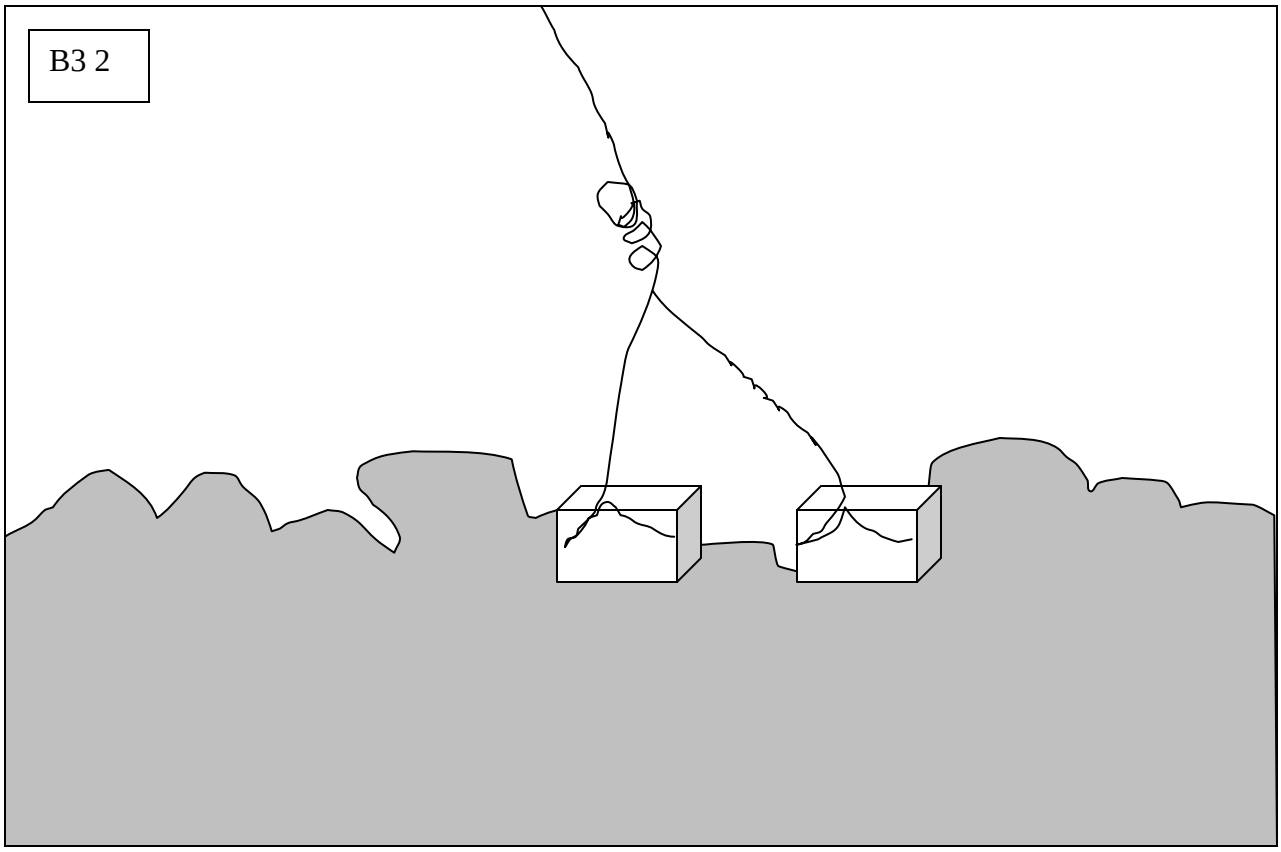

B1 5
12’

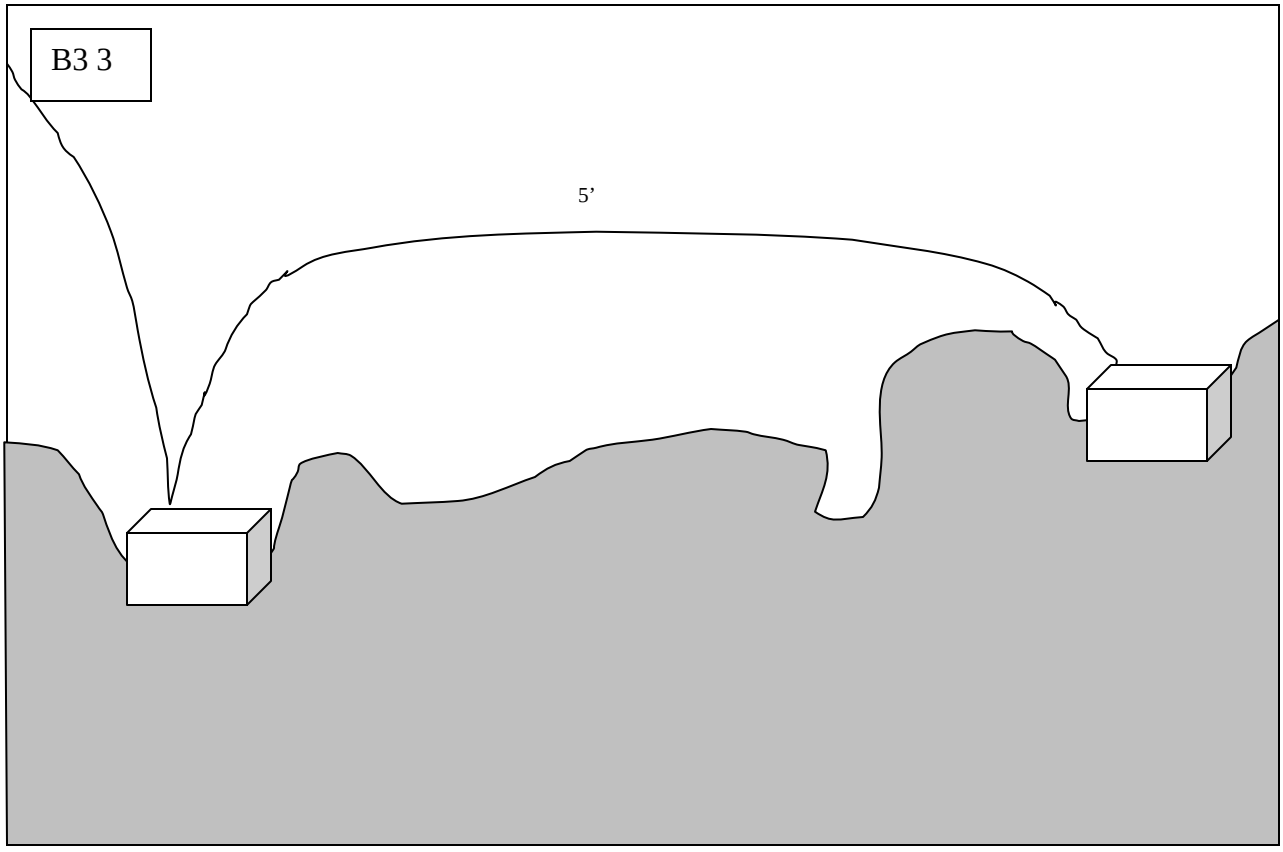

B1 7
5-6’

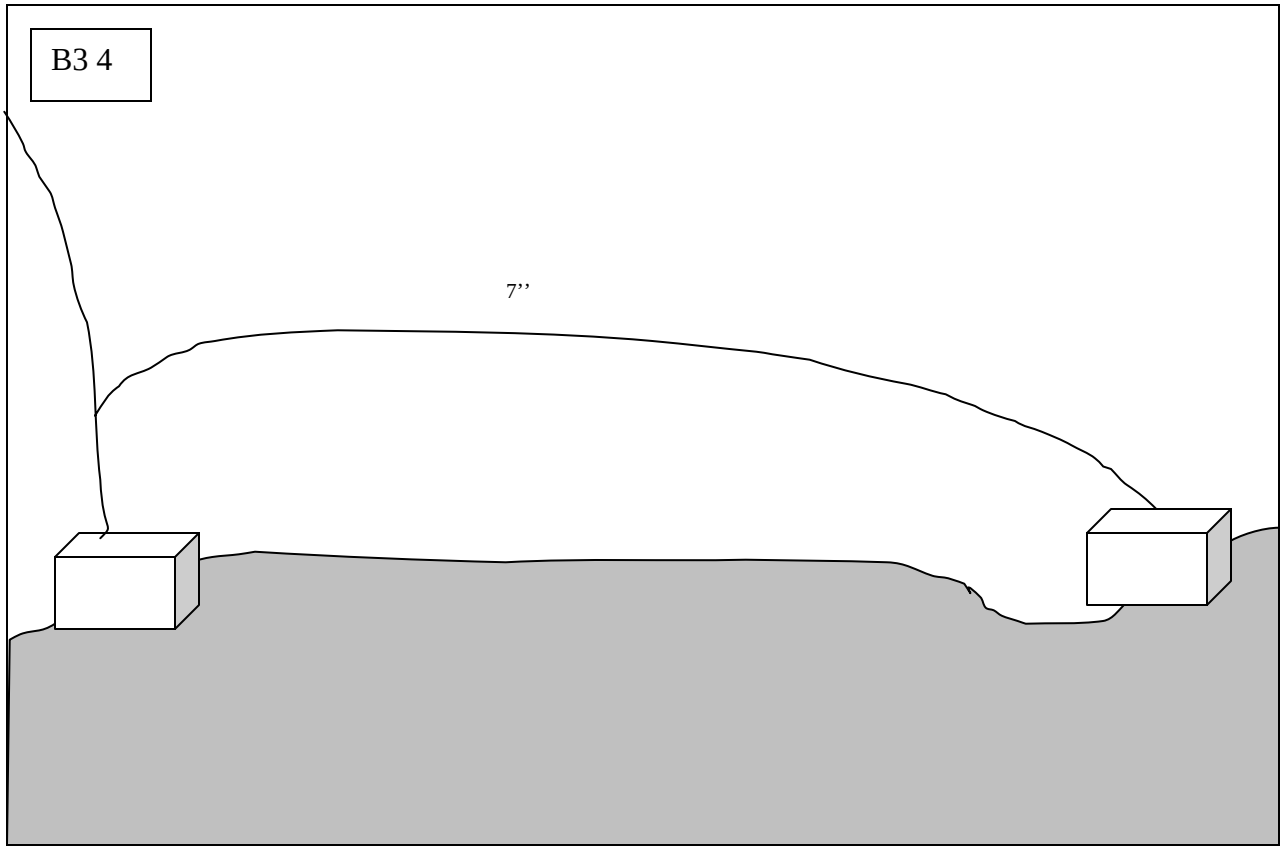

B2 4
7’’

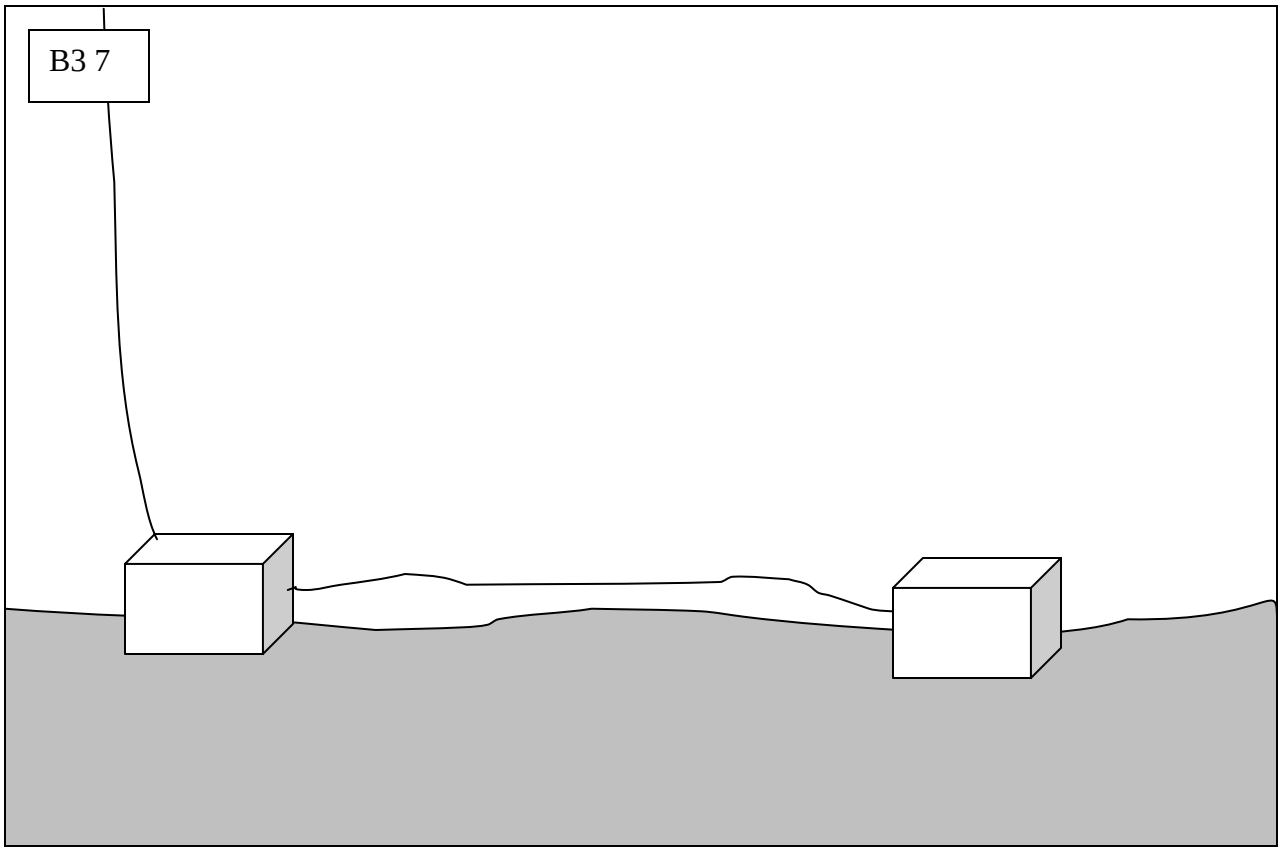

B2 7
3’


B3 1
3’

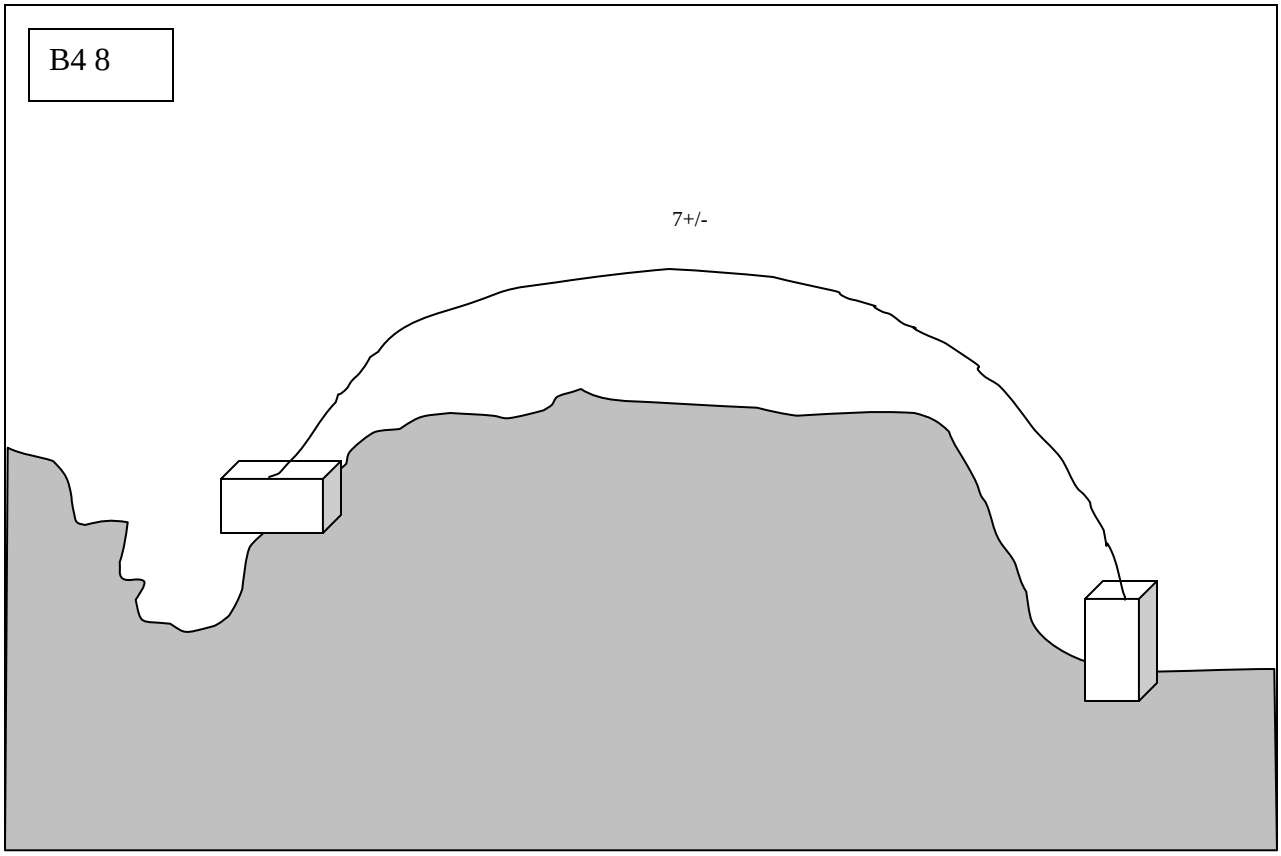

B3 2

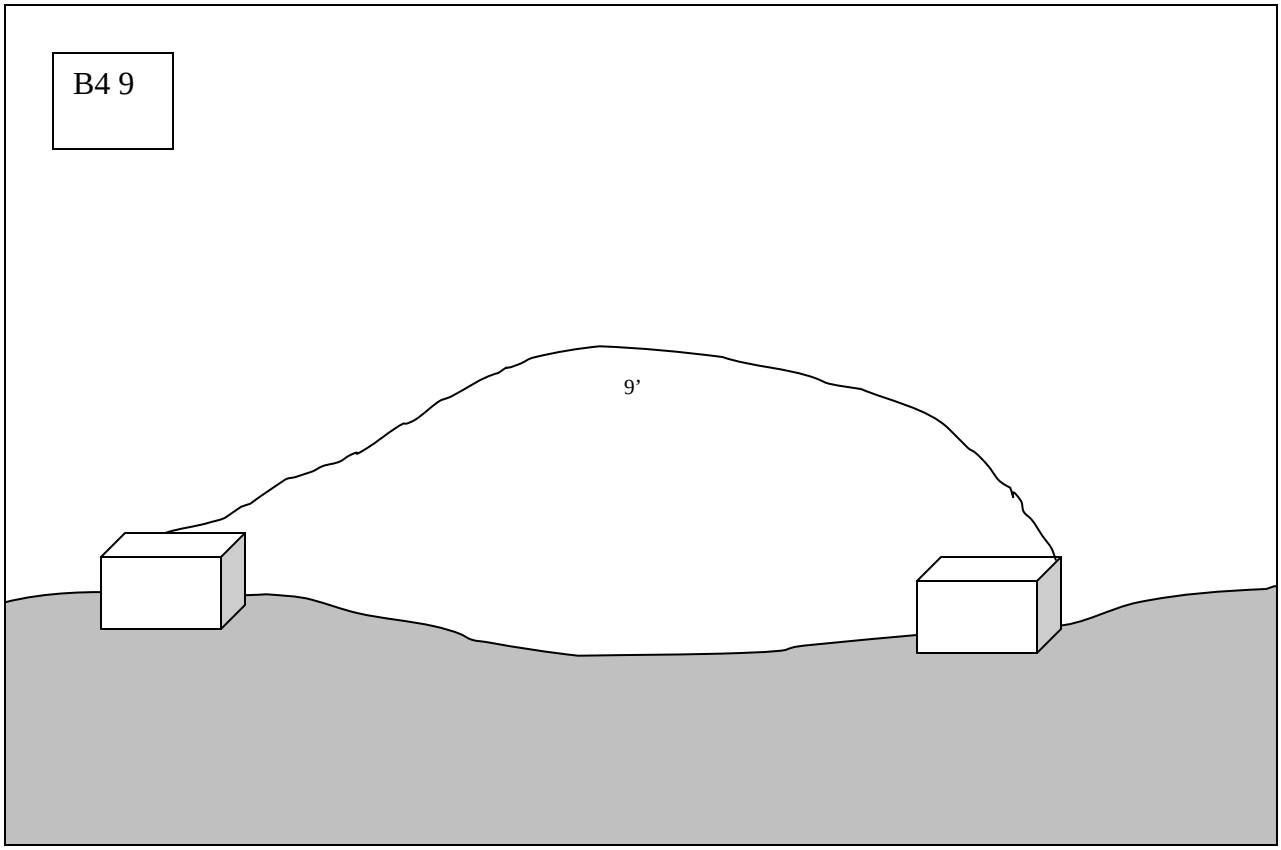

B3 3
5’

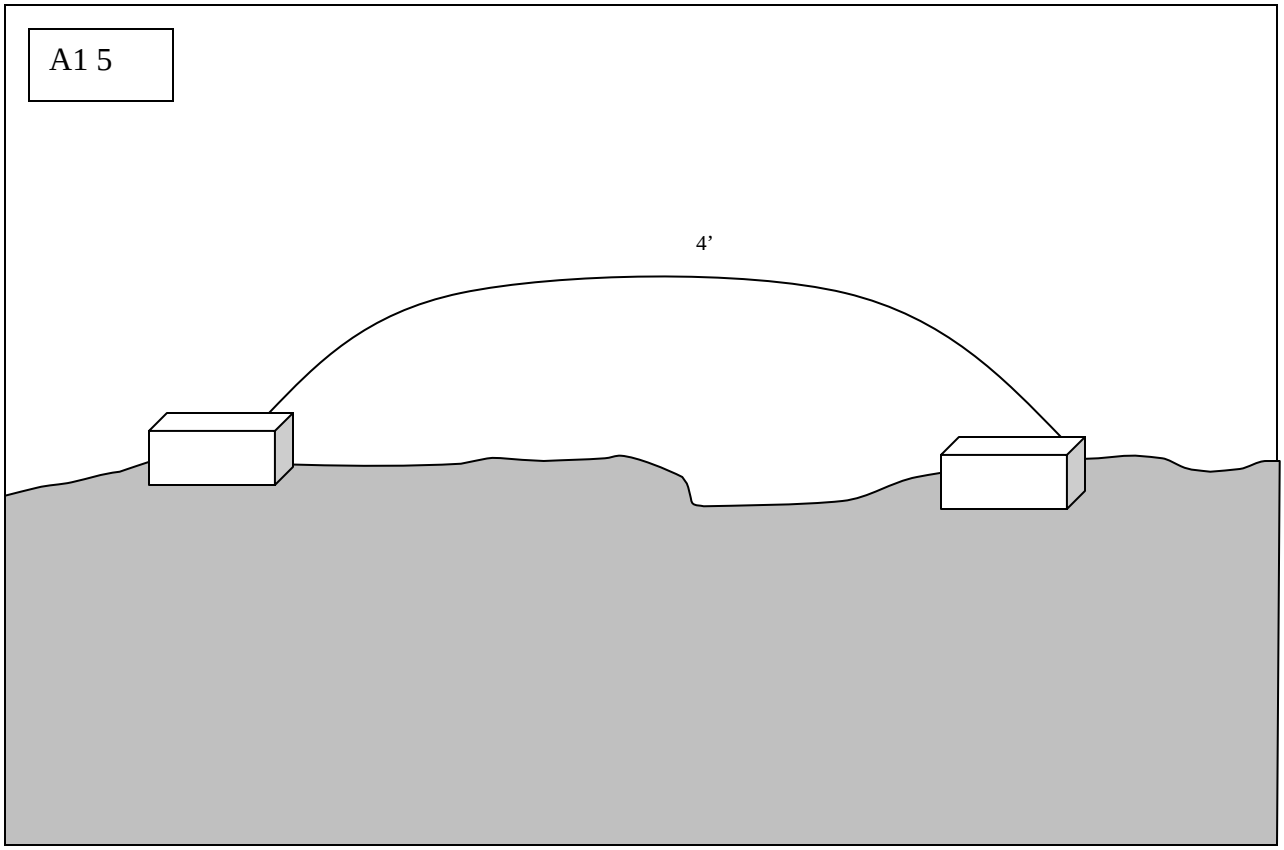

B3 4
7''

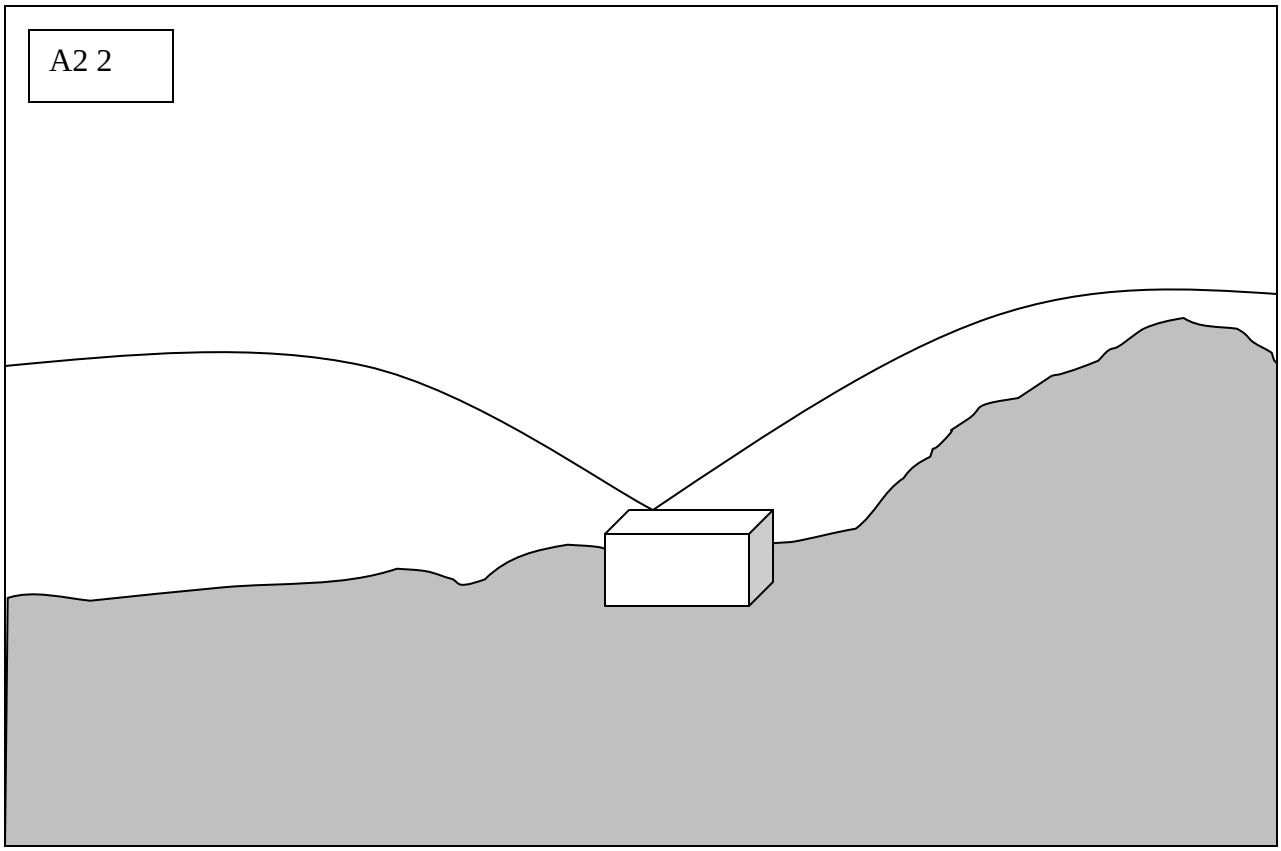

B3 7

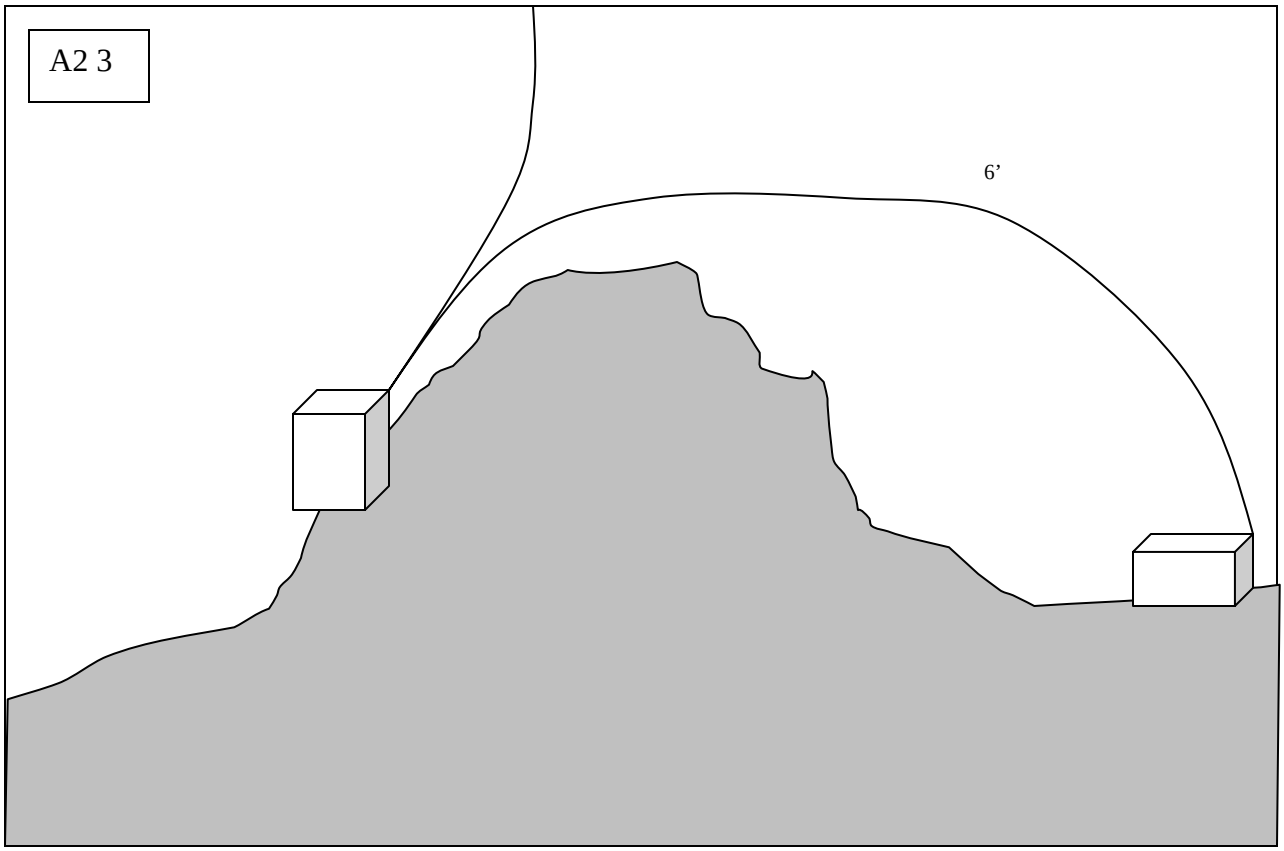

B4 5


B4 8
7+/-

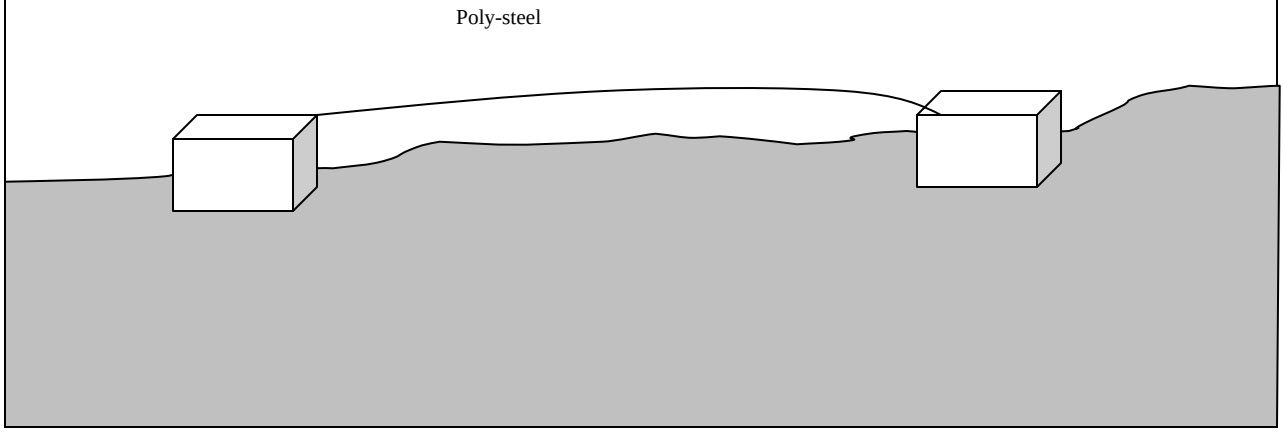

B4 9
9’


A1 5
4’

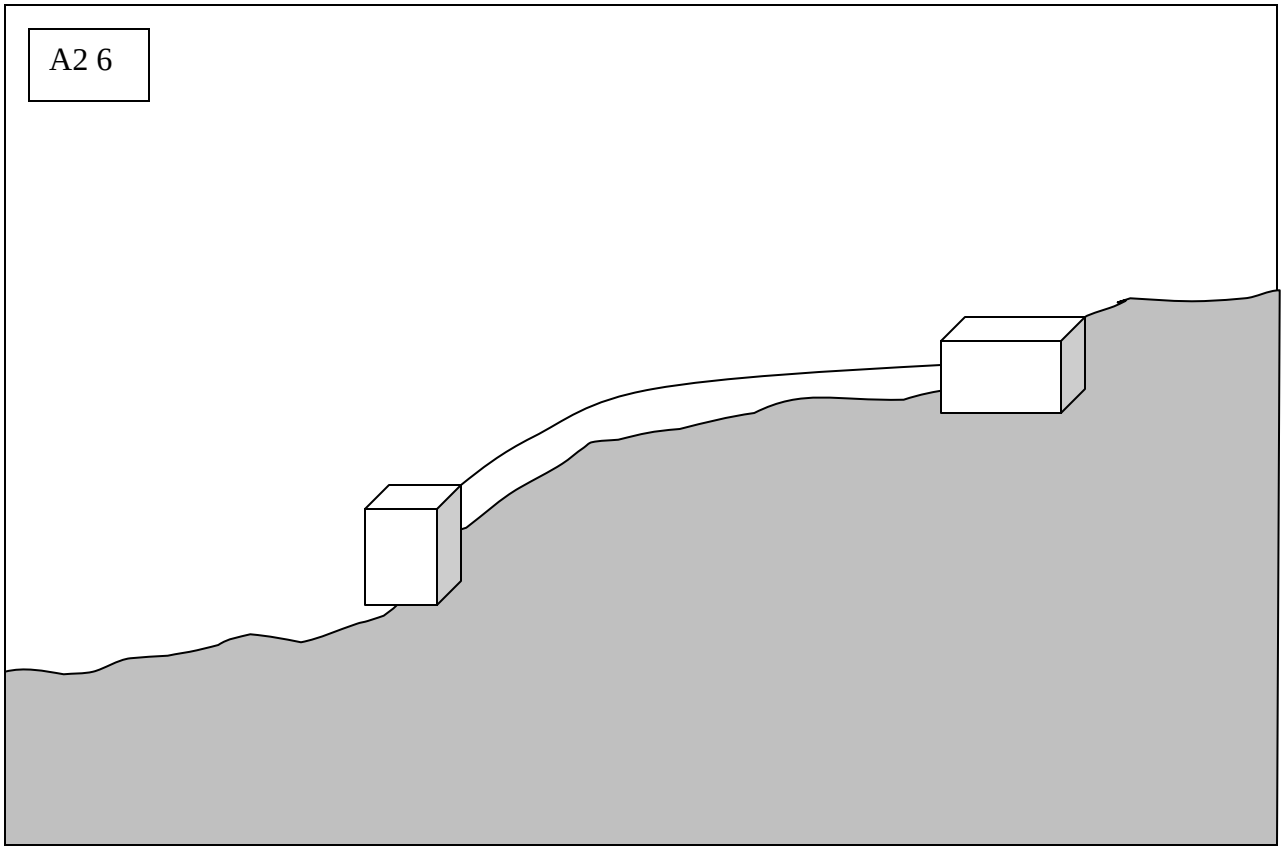

A2 2

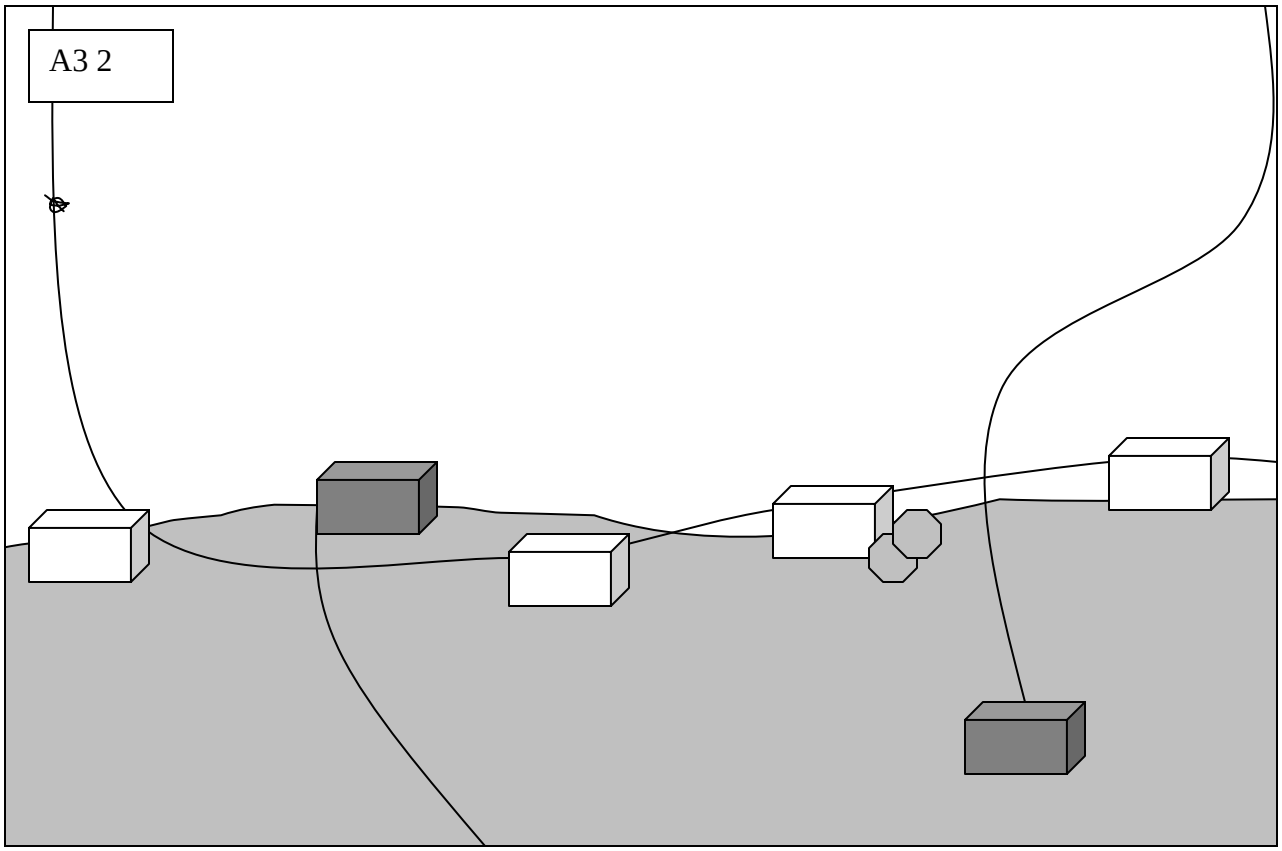

A2 3
6’

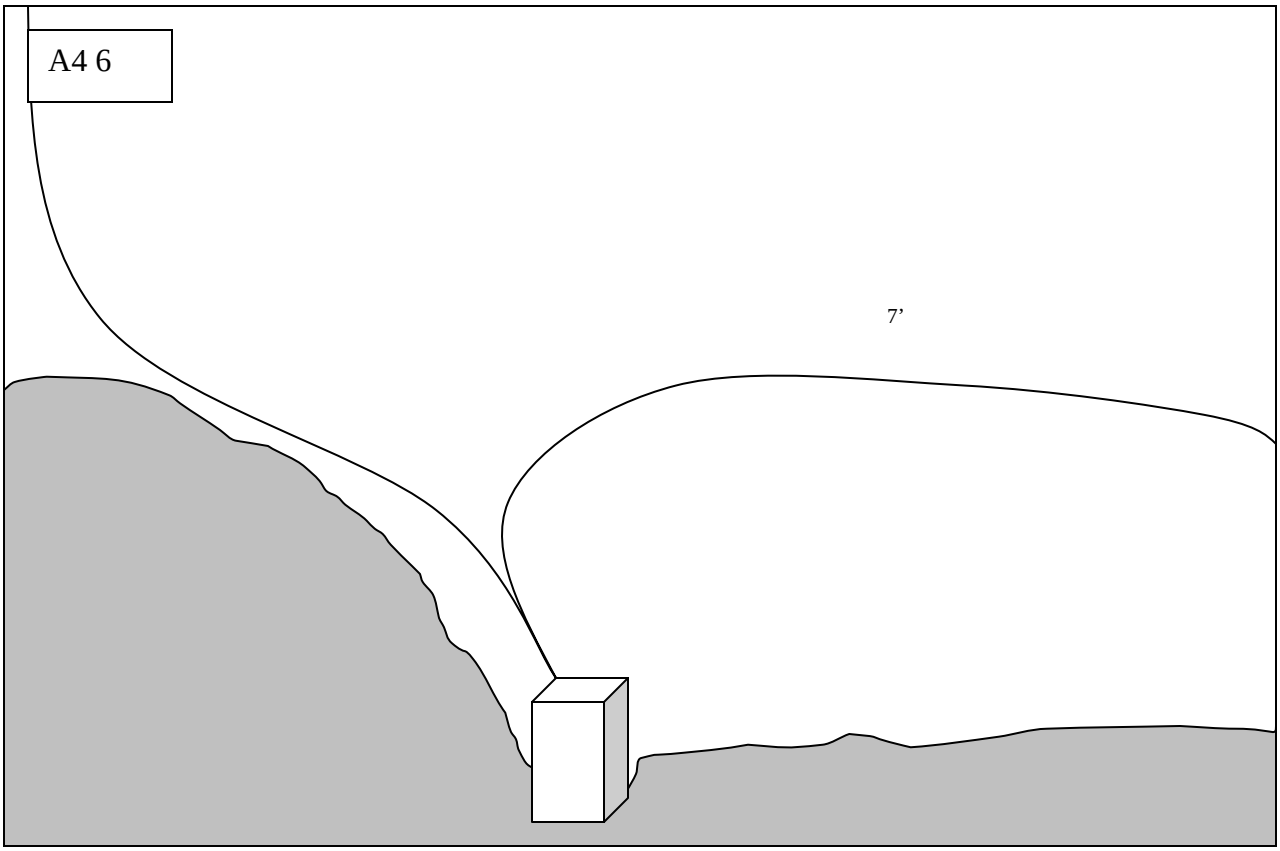
A2 4

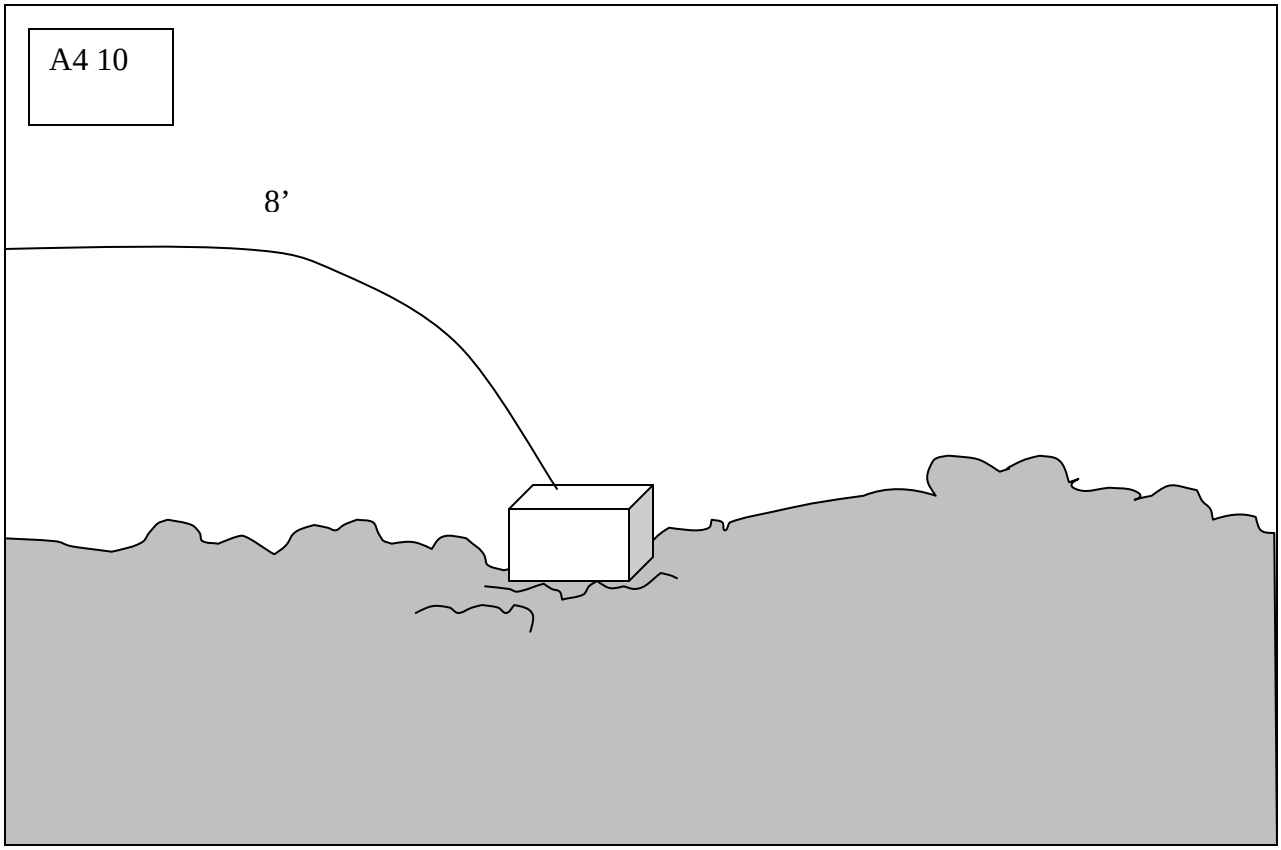


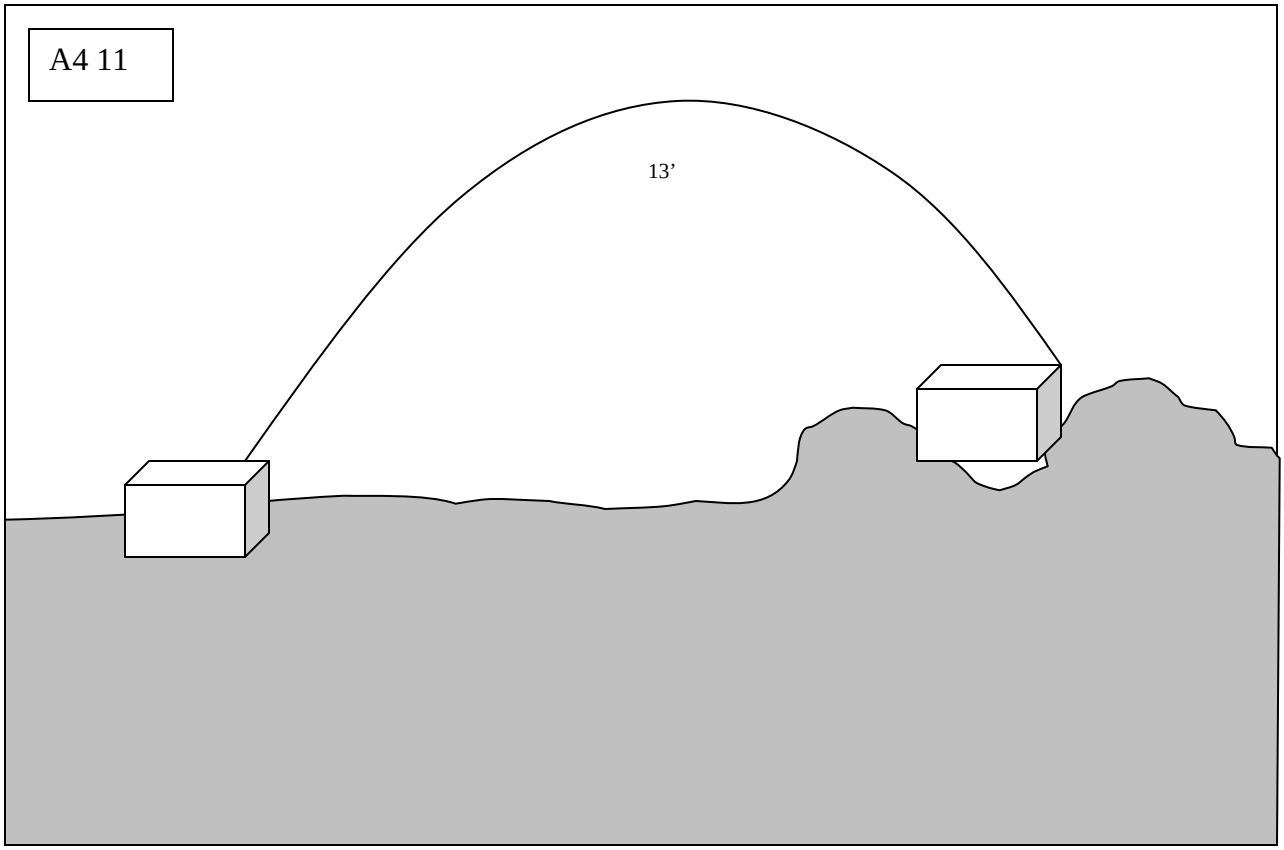
A2 6




A3 2


A4 6
7’


A4 10
8’


A4 11
13’